CONTROL-M Business Service Management Solution
User Guide

Supporting

BMC Batch Impact Manager version 6.4.01
BMC CONTROL-M/Forecast version 6.4.01
BMC Batch Discovery version 6.4.01

September 2008

Contacting BMC Software

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  - product version (release number)
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- operating system and environment information
  - machine type
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  - system hardware configuration
  - serial numbers
  - related software (database, application, and communication) including type, version, and service pack or maintenance level
- sequence of events leading to the issue
- commands and options that you used
- messages received (and the time and date that you received them)
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About this book

This book contains detailed information about BMC Batch Impact Manager, BMC CONTROL-M/Forecast, and BMC Batch Discovery which make up the CONTROL-M Business Service Management Solution. This book is intended for users that need to monitor the batch process of their organization.

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The software also offers online Help. To access Help, press **F1** within any product, or click the Help button in graphical user interfaces (GUIs).

Related publications

The following related publications supplement this book and the online Help:

Category	Document	Description
Installation Guide	*CONTROL-M Installation Guide*	Provides instructions for the installation of CONTROL-M/Enterprise Manager
User Guide	*CONTROL-M User Guide*	CONTROL-M/EM concepts, features, facilities and operating instructions
Reference Guide	*CONTROL-M Parameter Guide*	Syntax and usage for all parameters and variables that are included in CONTROL-M job processing definitions

Category	Document	Description
Administrator Guide	*CONTROL-M Administrator Guide*	The tasks that the CONTROL-M administrator must perform to define, monitor and maintain the CONTROL-M environment.
	CONTROL-M SSL Guide	
Utility Guide	*CONTROL-M Utility Guide*	Provides instructions for running command line utilities that can be used to perform various CONTROL-M tasks in batch.
Migration Guide	*CONTROL-M/Enterprise Manager Migration Guide*	This guide explains how to migrate CONTROL-M/EM data from earlier versions.
Language Customization Guide	*CONTROL-M Language Customization Guide*	Provides configuration instructions for running CONTROL-M with different languages.

Conventions

This book uses several special conventions that are worth noting:

- `All syntax, operating system terms, and literal examples are presented in this typeface.`
- Variable text in path names, system messages, or syntax is displayed in ***italic*** text:

  testsys/*instance*/*fileName*

- The symbol => connects items in a menu sequence. For example, **Actions => Create Test** instructs you to choose the **Create Test** command from the **Actions** menu.

Syntax Statements

The following example shows a sample syntax statement:

```
COMMAND KEYWORD1 [KEYWORD2|KEYWORD3] KEYWORD4={YES|NO} fileName...
```

The following table explains conventions for syntax statements and provides examples:

Item	Example
Items in italic type represent variables that you must replace with a name or value. If a variable is represented by two or more words, initial capitals distinguish the second and subsequent words.	*alias* *databaseDirectory*
Brackets indicate a group of options. You can choose at least one of the items in the group, but none of them is required. Do not type the brackets when you enter the option. A comma means that you can choose one or more of the listed options. You must use a comma to separate the options if you choose more than one option.	[*tableName*, *columnName*, *field*] [-full, -incremental, -level] (Unix)
Braces enclose a list of required items. You must enter at least one of the items. Do not type the braces when you enter the item.	{*DBDName* | *tableName*} {-a | -c} (Unix)
A vertical bar means that you can choose only one of the listed items. In the example, you would choose either ***commit*** or ***cancel***.	{commit | cancel} {-commit | -cancel} (Unix)
An ellipsis indicates that you can repeat the previous item or items as many times as necessary.	*columnName* . . .

Part 1

Overview

This part presents the following topics:

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Introduction

Business Service Management (BSM) is the most effective approach for managing IT from the perspective of the business. With Business Service Management, you will reduce cost, lower risk of business disruption, and benefit from an IT infrastructure built to support business growth and flexibility.

Since batch processing and background job scheduling play key parts in automating the business services of your organization, it is crucial that BSM can be effectively applied to this process. In the BMC CONTROL-M job scheduling environment, jobs and batch services are defined and monitored using CONTROL-M/Enterprise Manager (CONTROL-M/EM).

BMC Batch Impact Manager, when installed with CONTROL-M/EM, allows the definition of batch services on a business process level rather than just on a job level. BMC Batch Impact Manager manages batch SLAs and offers end-to-end service monitoring and reporting, providing real-time information on the health of critical batch business services. BMC Batch Impact Manager ensures the successful, on-time completion of critical batch business processes by proactively determining the business impact of a failure or delay.

With BMC CONTROL-M/Forecast, BMC Software provides projection capabilities, giving you the visibility and insight you need to meet the IT demands of your enterprise. This add-on component to the BMC CONTROL-M scheduling suite predicts the expected flow of batch processes, allowing deep analysis that helps you avoid negative business impacts. By analyzing the expected behavior of the batch environment at the enterprise level, you can identify unexpected and problematic batch processes and take corrective action. You can also analyze and resolve batch service planning inaccuracies well in advance to minimize disruption to business-critical services. By being proactive you can ensure that your business services will be on time after changes are made to the IT environment.

Batch business services dependencies can be defined in the Configuration Management Database (CMDB), allowing companies to ensure that when a change is planned, critical batch jobs are taken into account. BMC Batch Discovery, which automatically discovers and populates the CMDB with batch business services dependencies, is the critical link between the CONTROL-M environment, where batch services are managed and run, and BMC Atrium CMDB, where the information about the services and the IT environment is managed.

BMC CONTROL-M and BMC Batch Impact Manager integrate with BMC Service Impact Manager, the BMC Atrium CMDB, and BMC Remedy to provide a complete and accurate solution, covering all critical components of your business service. The across-the-board nature of the BMC CONTROL-M solution and its ability to integrate with other solutions makes it a significant and vital contributor to BSM.

Business Service Management helps your IT organization do more of what supports the business and less of what doesn't, and having an end-to-end solution can be the difference between failure and success.

This chapter presents the following topics:

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BMC Batch Impact Manager product overview

The business challenge

The failure or the late completion of critical batch business processes directly affects your organization's business performance and ability to function. When a batch process failure occurs in your IT environment, you may not immediately realize the impact to your business. Is this a low-priority issue or will it cause your business to lose millions of dollars?

The BMC solution

BMC Batch Impact Manager from BMC Software ensures the successful, on-time completion of critical batch business processes. It extends the industry leading scheduling capabilities of BMC CONTROL-M solutions by proactively determining the business impact of a failure or delay in a batch process, allowing users to define and manage batch flows on a business process level rather than on a job level. By understanding the business relevance of your batch processes, you can ensure that errors in execution will be prioritized and resolved according to business impact — so your critical business services remain available.

Defining the business process

Achieving batch management from a business perspective begins with identifying your most critical business services, their related critical batch processes, and the batch jobs that facilitate them. The BMC Batch Impact Manager user then defines a new critical job representing the critical business process. All predecessors of the critical job in the process flow are considered part of the critical service. The critical jobs are assigned with various attributes related to their completion time requirements — such as a job submission time limit and a "Must Complete By" time definition — as well as proactive alerting attributes.

Monitoring your most critical business processes

Once critical batch processes are identified, BMC Batch Impact Manager dynamically tracks the status of the critical jobs and calculates the status of each. By scanning the jobs related to the business process, the product can determine in advance that a certain process may fail, giving the system administrator time to first prevent the

problem. Furthermore, this product's innovative algorithm can predict the delay of a business process, using job information and statistics from previous executions to determine if a service will complete on time, early, or late. If the calculated completion time will not meet the "Must Complete By" time definition, a delay is identified and a predefined proactive alert is sent. This innovative approach for batch management assures your recovery actions will be prioritized according to the importance of the business service at risk.

Taking proactive actions

When critical business processes are at risk, a quick response can be the difference between getting back to business and going out of business. BMC Batch Impact Manager proactively detects potential delays and errors in the batch business process and ensures corrective actions will take place before the business service is affected. When a delay or failure is detected, the product can:

- Send an alert to the BMC Batch Impact Manager Web interface; This Web application lists all services and their current status allowing you to:
  - Monitor your services at any time from any place and determine the status of each
  - Perform initial analysis of the problem and status of the service
- Send an alert to the BMC Service Impact Manager
  - The "services" view displays information only about services that are currently problematic
  - The status of the service can be determined by the severity of the event
- Send an alert to the BMC CONTROL-M / Enterprise Manager alert server
- Send an alert via SNMP to any external exception handling system
- Trigger corrective actions, such as job submission, to bypass the delay and ensure the continuation of the batch process flow

Achieving rapid ROI

BMC Batch Impact Manager ensures rapid ROI through easy implementation and reduced operational costs. Integration with an existing BMC CONTROL-M environment is very easy and allows companies to leverage their previous investment and predefined definitions.

Because BMC CONTROL-M is already managing the batch environment, this implementation extends current capabilities without a complicated deployment, saving both time and money. Furthermore, because BMC Batch Impact Manager uses the business logic and statistical information on the batch environment already gathered by BMC CONTROL-M, benefits are immediate.

Summary: clearer priorities, better business

Batch processing and background job scheduling play a key part in automating an organization's business services. Batch-related failures or external events may cause delays in batch processing that affect the completion time and accuracy of business processes. Such delays and their potential effect on the business must be detected and analyzed before business is adversely impacted.

With BMC Batch Impact Manager, critical batch business processes can now be managed and monitored from a business perspective — elevating them to a new strategic level. By understanding the business relevance of batch processing, you can manage what matters and ensure that handling errors in the execution of critical processes will be prioritized and resolved according to their business impact.

BMC CONTROL-M/Forecast product overview

The business challenge

Enterprises today depend on IT to ensure high availability and high performance of a broad range of business-critical services. The complex and dynamic nature of the typical IT infrastructure, however, makes addressing this demand an almost impossible task.

IT professionals today struggle to predict the impact of changes in the batch environment — trying to gauge, for example, how enterprise-wide batch flow will look on the 21st of next month, what the batch workload will be on the main file server Wednesday between 14:00 and 17:00, which human resources jobs are scheduled to run offshore next Saturday, and which scheduled jobs will be affected by a four-hour shutdown of the backup machine this weekend.

IT professionals also struggle to validate the exact dates on which critical service batch flows are scheduled. For example, on what future date will a job be scheduled or what impact will a change to the business receipts processing calendar have on the financial batch process?

A single task improperly scheduled may seriously hamper business success. Without full visibility into these and other conditions, it's nearly impossible to deliver quality services at committed service levels.

The BMC solution

With BMC CONTROL-M / Forecast, BMC Software gives you the visibility and insight you need to meet the IT demands of your enterprise. This add-on component to the BMC CONTROL-M scheduling suite predicts the expected flow of batch processes, allowing deep analysis that helps you avoid negative business impacts.

BMC CONTROL-M / Forecast forecasting capabilities enables you estimate your scheduling environment behavior with respect to specific dates in the future. Both graphic and tabular representations of the forecast provide the future dates on which a given job or a scheduling table is predicted to be submitted. In addition, BMC CONTROL-M / Forecast generates an estimate of the full production flow for a given future date, as an enterprise-wide view.

By analyzing the expected behavior of the batch environment at the enterprise level, you can identify unexpected and problematic batch processes and take corrective action. You can also analyze and resolve batch service planning inaccuracies well in advance to minimize disruption to business-critical services.

Verifying schedule accuracy

BMC CONTROL-M / Forecast assists you in preventing unexpected job executions by providing schedule verification capabilities. Using a new or previously defined job, you can generate a visual calendar that displays all the dates on which the job will be scheduled.

The calendar takes into consideration all available scheduling factors, including:

- "Month days" and "week days" scheduling definitions
- Usage of specific calendars
- All other BMC CONTROL-M advanced scheduling attributes.

With this graphic presentation, you can quickly validate that jobs are not scheduled to run on nonworking days such as holidays. If you are not satisfied with the planned schedule, you can make changes on the fly — right on the calendar. The calendar view immediately reflects your modifications.

Estimating future batch flows

In a dynamic IT environment where changes occur frequently, accurate planning is critical. Accuracy ensures batch services are executed as planned and service levels are met.

BMC CONTROL-M/Forecast analyzes the batch environment, predicting the behavior of future batch flows. It generates a flow diagram as well as a tabular display that provides useful information and analysis capabilities such as:

- A display of all tasks and their dependencies for the requested date
- Estimated time execution window for each and every job
- Extensive information about each job's estimated life-cycle
- Filtering capabilities
- Business service analysis through integration with BMC Batch Impact Manager (see "BMC Batch Impact Manager product overview" on page 23)
- BMC CONTROL-M security capabilities

BMC CONTROL-M/Forecast allows the same capabilities in a wider scope, looking at the business service level, which comprises more than a single job. When validating the accuracy of a business service schedule, BMC CONTROL-M/Forecast provides a matrix view that clearly displays the planned execution of each job belonging to the business service.

Extensive reporting

Enhanced reporting enables historical analysis of various profiles. Generating forecast reports is simple and straightforward with BMC CONTROL-M reporting capabilities. The solution maintains rich job execution information, allowing you to create valuable reports, such as:

- Analysis of peak execution time windows for the last business day of the previous quarter
- Trend analysis displayed as a histogram of all jobs associated with a specific application running within a specified time frame during a specified time period (for example, "the HR application running on Thursday afternoon between 14:30 and 17:00 during the last two months")
- All batch job execution times for the previous night

Each report provides a graph to speed the discovery of trends or specific peaks ----- enabling you to drill down to the specific job level.

Summary: better planning, better results

Planning batch processing in advance can greatly decrease the amount of unplanned or unexpected failures and increase business accuracy and efficiency.

The BMC CONTROL-M/Forecast helps you better plan your batch services to eliminate negative business impacts. Identifying bottlenecks or available time slots within the batch flow is straightforward, as is validating the accuracy and effect of ongoing changes and adjustments of the batch flows to business requirements. Extensive reporting allows analysis of your batch environment so you can identify trends and workloads and react accordingly.

BMC Batch Discovery product overview

The business challenge

Key business services and processes are dependent on batch workload. Frequently, the entire business service is delivered via batch processing and, in many cases, there are significant dependencies among business services and the timely execution of batch processes. Therefore, ensuring that batch processing runs smoothly and efficiently requires knowledge of the relationship among computer servers and the batch processes they support.

Many organizations undertake change, problem, and configuration management activities without a complete view of the relationships between IT components and batch processing. Although initiated as a scheduled outage for hardware upgrade, for example, an unplanned and catastrophic business outage or a violation of a service level agreement (SLA) may occur as a result of batch processing that could not run on the server or servers that were intentionally shut down.

Furthermore, planning activities for the support of growing volume or similar capacity planning activities should be undertaken within the context of the current resource consumption of both the transaction and the batch workload running on existing configurations. BMC Batch Discovery identifies the servers that currently support batch services and helps to ensure that batch workload is included in calculations for future capacity.

The BMC solution

BMC Batch Discovery automatically discovers and collects details about business services implemented by batch workloads. BMC Batch Impact Manager (see "BMC Batch Impact Manager product overview" on page 23), another component of the BMC CONTROL-M enterprise job scheduling solution, is used to define service levels for batch business services.

BMC Batch Discovery scans through the business service definitions managed by BMC Batch Impact Manager. These definitions contain information about batch business services and their service level requirements, such as completion time and actions to be performed in the event of an SLA breach. Using standard BMC CONTROL-M predecessor / successor relationships, BMC Batch Discovery dynamically locates all jobs that comprise the "service path" for each batch service (all the jobs that must be completed to complete the service). Once all jobs along the service path have been discovered, BMC Batch Discovery then extracts the names of the computer servers on which each of these jobs executes.

When this information has been gathered, BMC Batch Discovery defines a configuration item (CI) for each batch service and, if not already existing, another CI for each computer server discovered. Finally, the relationships between the batch service and the computer servers are created and maintained in the BMC Atrium Configuration Management Database (CMDB).

The discovery process performs whatever processing is required to keep the above entities and relationships up to date. If new objects are discovered, the appropriate CIs are built. If they already exist, the information and relations are updated. BMC Batch Discovery can be scheduled to run as frequently as necessary to ensure that the service model is kept up to date.

Customer benefits

Once the above relationships have been created, an accurate service model is available to the organization and the full power of service management can be leveraged for the management of the batch workload. Any changes contemplated for a server, such as decommissioning it or taking it out of service for upgrades, will immediately trigger impact to the batch business service containing any jobs that execute on that host.

Perhaps most importantly, if a server failure is detected by any systems management tools, such as BMC Performance Manager, the impact of that outage can be reflected in the service model. In addition, the severity of the event can be properly assessed based on its impact on batch business services, and resources can then be allocated to work on the problem according to the importance of the event to the services delivered by the business.

Summary: better batch service model, better business service management

BMC Batch Discovery contributes to effective Business Service Management (BSM) by providing key batch services information via the BMC Atrium CMDB. BSM is the most effective approach for managing IT from the perspective of the business. It helps your IT organization do more of what supports the business and less of what doesn't. With BSM, you will reduce cost, lower risk of business disruption, and benefit from an IT infrastructure built to support business growth and flexibility.

By continually updating the BMC Atrium CMDB with batch services information, BMC Batch Discovery ensures that batch data is made available to other BMC solutions — across both mainframe and distributed systems. This is a critical first step toward understanding the business impact of enterprise job scheduling, thus contributing to effective BSM.

Part 2

BMC Batch Impact Manager

This part presents the following topics:

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Introduction 33

Chapter 3
Installation 49

Chapter 4
Getting Started 57

Chapter 5
Configuration 61

Chapter 6
Defining services to identify and handle problems 71

Chapter 7
Monitoring services and jobs 99

Chapter 8
Managing exceptions for expected run time statistics 119

Chapter 9
Administrator tasks 129

Chapter 2

Introduction

Batch processing and background job scheduling play key parts in automating the business services of your organization. Batch-related failures or external events, such as hardware and network problems, may cause delays in batch processing that affect the completion time and accuracy of business processes. Such delays and their potential effect on the business must be detected and analyzed before business is adversely impacted.

To solve this problem, BMC Batch Impact Manager

- proactively detects potential delays and errors in critical batch business services
- provides the status of critical batch business services
- allows corrective actions to take place before the business service is affected

This chapter presents the following topics:

Defining critical services 34
Monitoring critical services 36
Detecting late services 37
    Comparison of current status of jobs to available statistics 37
    Assessment of factors for determining lateness and earliness 39
    Setting of service statuses 40
    Handling of special situations 41
BMC Batch Impact Manager architecture 41
BMC Batch Impact Manager functionality in CONTROL-M/EM 44
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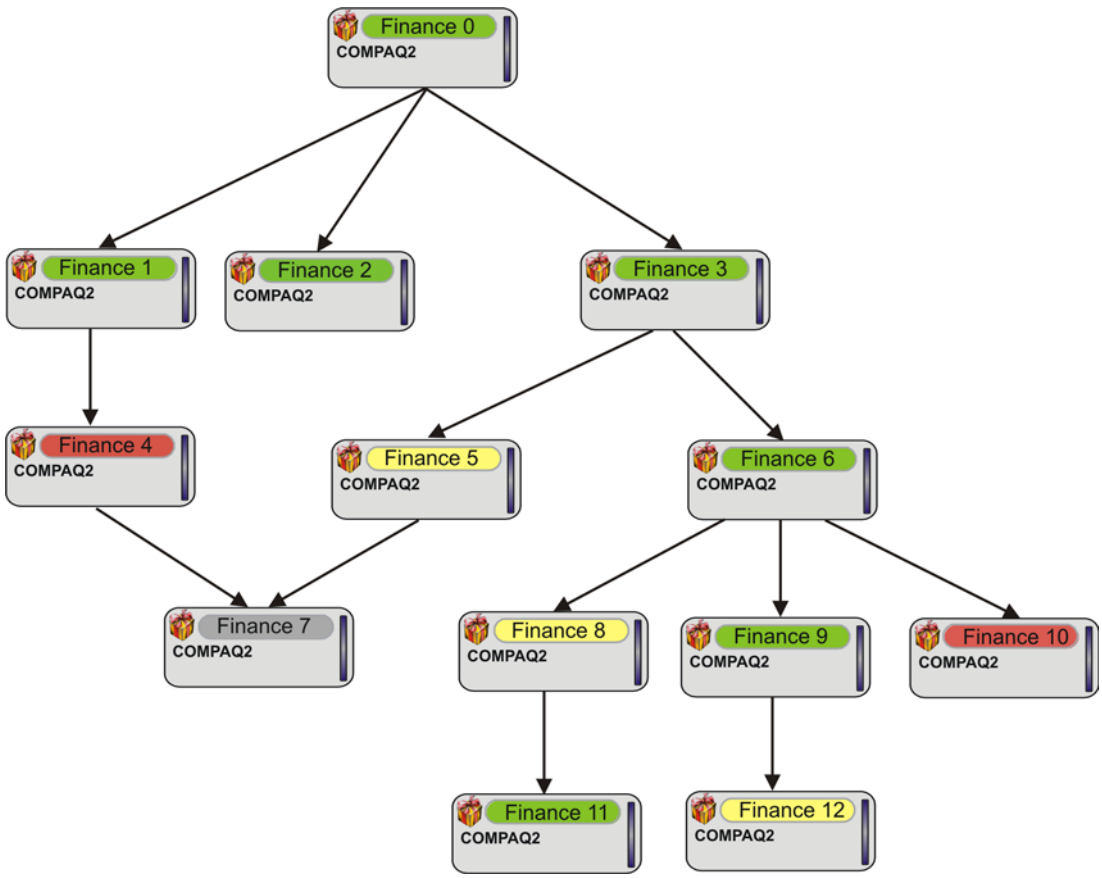
Defining critical services

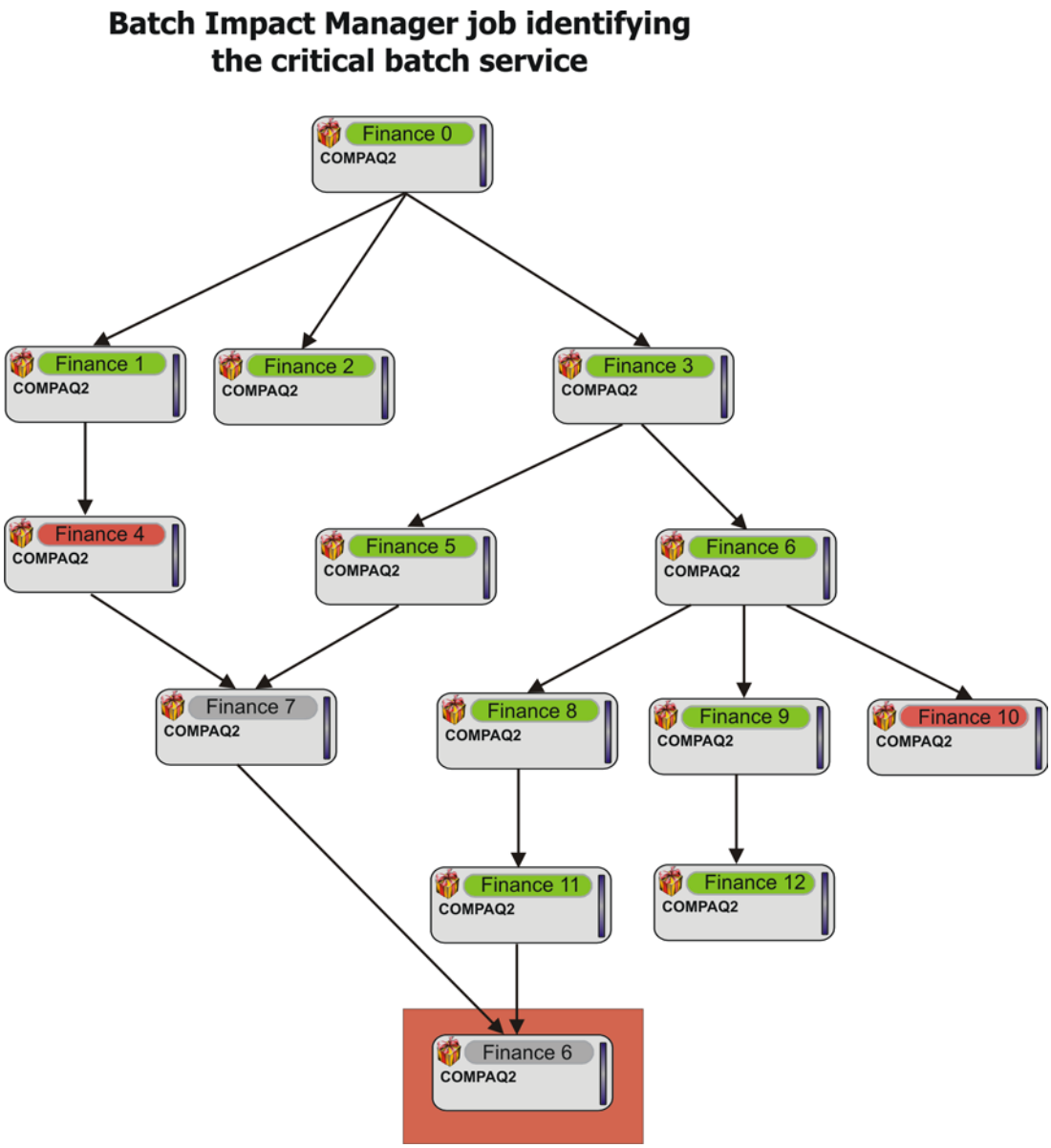
To define and schedule BMC Batch Impact Manager critical batch services, you must do the following:

1. Use the Flow Diagram in CONTROL-M/Desktop to identify a chain of jobs that together comprise a critical service.



2. Use the **CONTROL-M BIM** option in the Job Type field on the job editing form to create a BMC Batch Impact Manager job at the end of the chain of jobs in CONTROL-M/Desktop.

3. Use the BIM panel in the job editing form to complete the BMC Batch Impact Manager job.



4. Use CONTROL-M/Desktop and CONTROL-M/Enterprise Manager to schedule and submit the chain of jobs as usual, along with its BMC Batch Impact Manager job.

   This topic is discussed in Chapter 6, "Defining services to identify and handle problems."

Monitoring critical services

You can monitor critical services in the following ways:

- **by receiving "early warning" notification** of potentially late batch services, before the service is actually late. BMC Batch Impact Manager can perform the following tasks to generate real-time warnings:

  — send e-mail to any user

  — display special BMC Batch Impact Manager alerts in the CONTROL-M/EM Alerts facility

  — indicate potentially delayed services using the Services View in BMC Service Impact Manager (see "Using BMC Service Impact Manager" on page 113).

  — open incidents in BMC Remedy IT Service Management indicating that a critical service is problematic (see "Using the BMC Remedy ITSM - Incident Manager" on page 114).

  — list the statuses of all batch services in the Business Services window in CONTROL-M/EM GUI or through the BMC Batch Impact Manager web-based user interface

  For more information, see "Receiving notifications" on page 110.

- **using the CONTROL-M/EM Flowdiagram**

  View the production environment to see the status of all jobs, including BMC Batch Impact Manager jobs. All CONTROL-M capabilities are available to BMC Batch Impact Manager jobs, including advanced scheduling criteria, complex dependencies, Quantitative and Control resources, and AutoEdit variables. Like any other job, you can put BMC Batch Impact Manager jobs on hold, and perform relevant job actions on them.

  The CONTROL-M/EM Alerts facility can display alerts generated by BMC Batch Impact Manager, warning of a potential problem with a service. If the jobs in a service make up for lost time and, in the end, will finish on time, alerts in the Alerts window are automatically marked **Handled**.

- **with the BMC Batch Impact Manager Web Client**

  The web client lists all services and their current status. Services are listed in different colors, which indicate if the service is running on time, might be late, or is late. For instructions on using this application, see "Using the BMC Batch Impact Manager Web Client" on page 100.

- **by viewing services in BMC Service Impact Manager Services View**

  The Services View in BMC Service Impact Manager (BMC SIM) enables you to monitor problematic services and their statuses, enabling you to react in a timely manner to any services that are delayed. The Services View displays information only about services that are currently problematic. For instructions on using this application, see "Using BMC Service Impact Manager" on page 113.

- **by generating BMC Batch Impact Manager reports**

  This is described in Chapter 7, "Monitoring services and jobs."

- **by viewing BMC Batch Impact Manager log files**

  This is described in Chapter 7, "Monitoring services and jobs."

Detecting late services

This section explains how BMC Batch Impact Manager determines if a batch service is on schedule or late. The following topics are discussed:

- Comparison of current status of jobs to available statistics
- Assessment of factors for determining lateness and earliness
- Setting of service statuses
- Handling of special situations

NOTE

This section is intended for those users who

- are responsible for setting up, implementing, and administering critical batch services
- want detailed information about how BMC Batch Impact Manager performs its calculations

Comparison of current status of jobs to available statistics

BMC Batch Impact Manager tracks the status of the jobs associated with a critical batch service and dynamically calculates the status of the service in relation to its desired completion time. The desired completion time can be based on available statistics for the jobs, manually defined exceptions, and default settings.

BMC Batch Impact Manager uses job information and statistics from previous job executions, based on the average run time, to determine if a service is on time, or late.

Statistics can be based on the following:

- CONTROL-M statistics from previous job executions. In this case, BMC Batch Impact Manager retrieves statistics for jobs as they are submitted in CONTROL-M, and bases its determinations about lateness on these statistics.

- Exceptions to default settings for jobs and job periods (such as season, quarter, month) can be manually defined by creating rules using the Forecast/BIM window in the CONTROL-M/EM GUI. Exceptions are often defined for the following situations:

  — No statistics are available for a job in CONTROL-M because it is running for the first time.

  — Business considerations dictate a new set of statistics. For example, perhaps due to seasonal changes in business activity, statistics are skewed.

  — BMC Batch Impact Manager has just been installed and is being implemented phase by phase. In this case, you may want to define default settings for jobs and job periods to test various phases of implementation.

- Default value for all jobs as defined using the **DefaultAverageTime** system parameter.

For information about how to set up the statistics options for BMC Batch Impact Manager, see Chapter 8, “Managing exceptions for expected run time statistics.”

Assessment of factors for determining lateness and earliness

BMC Batch Impact Manager uses the factors described in Table 1 to determine if a service is on schedule or late; a job is running as expected, running too quickly or is running too late.

Table 1 Factors for determining lateness and earliness

Entity	Factor	Description
Job	Average run time	Derived from statistics accumulated during previous runs of the job, from the Exceptions tool in the CONTROL-M/EM GUI**,** or from the **DefaultAverageTime** system parameter.
Job	Due time	The time that the BMC Batch Impact Manager Server calculated that the job must end if it is to finish on time. This is derived from the **Due time** for the service.
Job	Start time	The time at which a job actually started running.
Job	End time	The actual time at which a job actually stopped running.
Service	Due time	The time by which, according to the BMC Batch Impact Manager Server, the service must end if it is to finish on time.

Setting of service statuses

BMC Batch Impact Manager can set the following statuses for a critical service or its jobs.

Table 2 Statuses for services and their jobs

Status	Reason and calculation
Service is running	Any one of the following is true: ■ While a job is waiting to run, its Start time has not passed its Expected start time. ■ While a job is running, all of the following are still true: — The Service didn't finish and its estimated time is before the due time. — The Due time for the job has not yet passed. — The Expected end time for the job has not yet passed. — The Start time of the job has not passed its Expected start time. ■ When a job has completed OK, the End time of the job has not exceeded the Due time of the job.
Service is late	Any one of the following is true: ■ While a job is waiting to run, the current time has exceeded the Expected start time for the job. ■ While a job is running, all of the following are still true: — The Service didn't finish and its estimated time is after the due time. — The Expected end time will exceed the Due time — The Due time for the job has passed. — When the job started running, its Start time exceeded its Expected start time.
Service completed late	When a service has completed OK, but the end time of the service has exceeded its Due time.
Job ran too long	Any one of the following is true: ■ When a job has completed OK, the run time has exceeded the Average run time. ■ While a job is running, the Expected end time for the job has passed.
Job failure on service path	The status of any job in the critical service becomes Not OK (meaning, a job failure on the path).
Job ended too quickly	When a job has completed OK, the run time is earlier than the Average run time (taking into consideration the tolerance specification for the jobs in the service).

Handling of special situations

The following describes how BMC Batch Impact Manager handles special situations when determining if a service is on time or late:

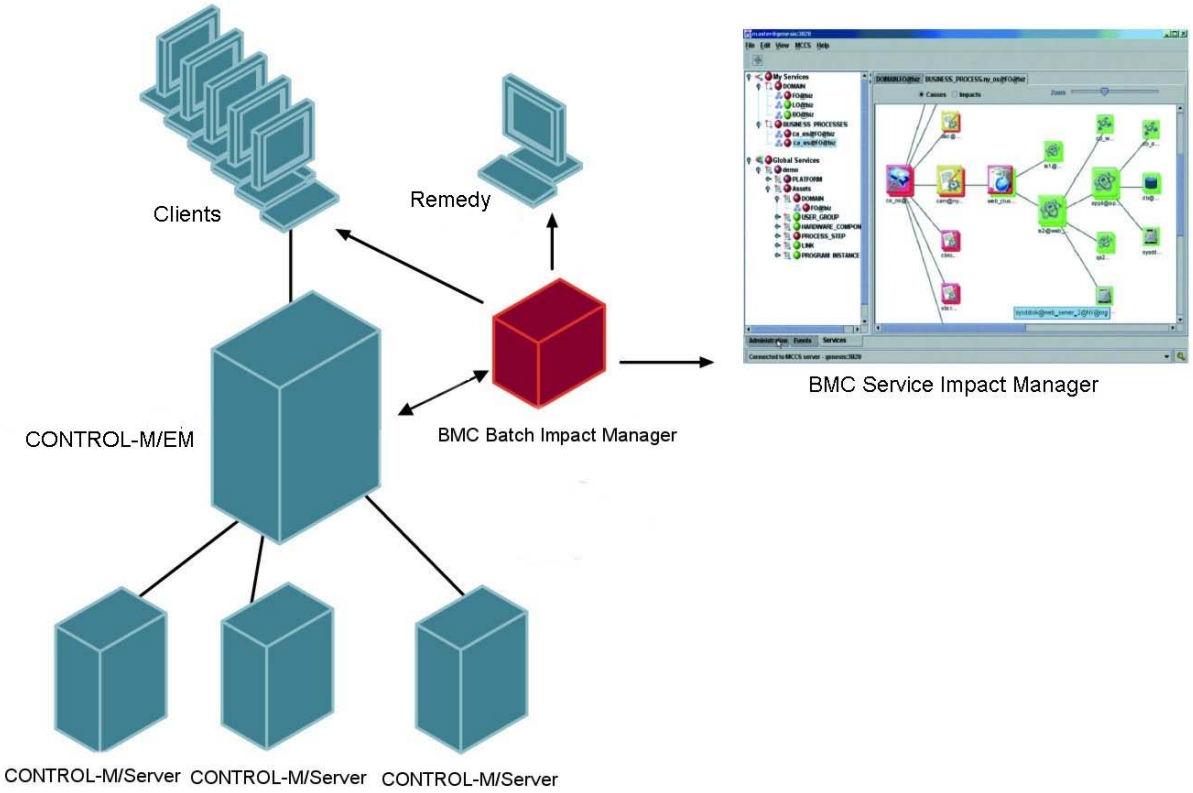
- When multiple problems occur for the same critical service, the status of the service is set according to the most urgent problem.
- When a deleted job exists in the set of jobs that comprise a critical service, BMC Batch Impact Manager does not include the deleted job in its calculations.

BMC Batch Impact Manager architecture

BMC Batch Impact Manager integrates with BMC Service Impact Manager and extends CONTROL-M capabilities.

Figure 1 illustrates the relationships between BMC Batch Impact Manager, CONTROL-M, and BMC Service Impact Manager.

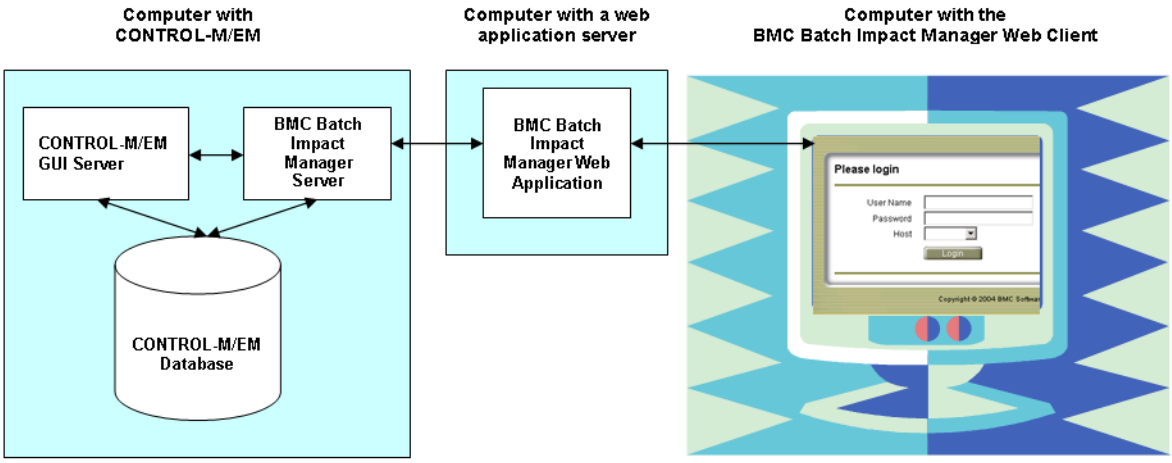
Figure 1 Integration with CONTROL-M and BMC Service Impact Manager



The CONTROL-M/Batch Impact Manager Architecture

BMC Batch Impact Manager consists of the following components, as illustrated in Figure 2.

Figure 2 BMC Batch Impact Manager components



- **CONTROL-M/EM GUI Business Services** window
  This is the main user interface to handle problems with the service such as define exceptions, find problematic jobs, and update the dead line.

- **BMC Batch Impact Manager Web Client**
  This is the main user interface for high level managers using BMC Batch Impact Manager. It enables you to monitor the statuses of all batch services, extend deadlines for batch services if necessary, and generate reports.

- **BMC Batch Impact Manager Web Application**
  This is the BMC Batch Impact Manager application that resides on a computer with a web application server, and handles communication between BMC Batch Impact Manager Server and the BMC Batch Impact Manager Web Client.

- **BMC Batch Impact Manager Server**
  This server performs all BMC Batch Impact Manager processing and sends out notifications to the following destinations, using the indicated protocols and gateways:

  — CONTROL-M/EM Alerts window
  — BMC Batch Impact Manager Web Application and Client, using CORBA
  — Any external exception handling system, using SNMP
  — E-mail, using SMTP
  — BMC Remedy IT Service Management, using the Remedy API
  — BMC Service Impact Manager, using the BMC Service Impact Manager iiDK

The BMC Batch Impact Manager Server is similar to the CONTROL-M/EM GUI Server in that it communicates with the CONTROL-M/EM Gateway directly, and accesses the CONTROL-M/EM Database.

BMC Batch Impact Manager functionality in CONTROL-M/EM

BMC Batch Impact Manager is fully integrated into the CONTROL-M/EM product. This integration includes:

- In CONTROL-M/EM, you can navigate between jobs in a critical batch service, the BMC Batch Impact Manager job, and the actual service using the various navigation tools.
- You can specify jobs in a BMC Batch Impact Manager batch service when specifying filter criteria in the following dialog boxes in CONTROL-M/EM using the **Included in Business Service** check box:

  — Find/Select Jobs dialog box

  — Dynamic Filter dialog box
- You can filter and view alerts by origin, such as all alerts that originated from BMC Batch Impact Manager. This is available both from the Alerts facility and the Reporting facility. An indicator displays next to all alerts that originated from BMC Batch Impact Manager.
- Monitoring of critical batch services is available directly from CONTROL-M/EM GUI using the Business Services window, in addition to the BMC Batch Impact Manager Web Client.

  BMC Batch Impact Manager features are available directly within CONTROL-M/EM. Additional fields, buttons, dialog boxes, and menu options appear once BMC Batch Impact Manager is installed.

Form free text field with Latin-1 characters

The BIM form tab display is taken from Internet Explorer encoding settings. To view the text correctly with Latin-1 characters, right click on the BIM form, select **encoding, and choose the language you want to work with.**

All CONTROL-M/EM forms can be encoded using this method.

User authorizations

For BMC Batch Impact Manager jobs, CONTROL-M/EM user authorizations are used. Services are only displayed in the BMC Batch Impact Manager Monitor if the user is authorized to see it.

There are certain exceptions to this rule.

Reports

Permissions to access BMC Batch Impact Manager reports must be assigned using the **CONTROL-M/EM User Authorizations window** => **Privileges panel** => **Monitoring and Administration Tools**. From the **BIM** list, select one of the following authorization settings:

- Default—Valid for user authorizations only; allows the highest level of authorization defined for any group of which the user is a member.
- None—No access to BMC Batch Impact Manager Reports
- Full—Full access to BMC Batch Impact Manager Reports

BMC Batch Impact Manager rules and assumptions

Permissions to access BMC Batch Impact Manager/Forecast Configuration window and the Current Assumptions Window must be assigned using the **CONTROL-M/EM User Authorizations window** => **Privileges panel** => **Monitoring and Administration Tools**. From the **Forecast/BIM configuration** list, select one of the following authorization settings:

- Default—Valid for user authorizations only; allows the highest level of authorization defined for any group of which the user is a member.
- Admin — Full access to Forecast/BIM Rules window, and the BIM Services Current Assumptions window.
- Browse — Partial (read-only) access to Forecast/BIM Rules window, and the BIM Services Current Assumptions window.

For further details, see the *CONTROL-M Administrator Guide*.

Language capabilities

Western European languages

CONTROL-M/EM, CONTROL-M/Desktop, CONTROL-M/Server, CONTROL-M/Agent, and BMC Batch Impact Manager, support Western European language characters (the Latin-1 character set). These products can accept characters in English, German, Spanish, and French from the Latin-1 character set (ISO 8859-1) in almost all text fields and parameters. To set a BIM form to the desired Latin-1 language, see "Form free text field with Latin-1 characters" on page 44.

For additional information, see the following guides.

Task	Topic and guide
Indications of which parameters do not support Western European Language special characters	Individual parameter descriptions in the *CONTROL-M Parameter Guide*
A list of all parameters that support Western European Language special characters	*CONTROL-M Language Customization Guide*
A list of Western European Language special characters that are not supported at any time	*CONTROL-M Language Customization Guide*
Language configuration instructions	*CONTROL-M Language Customization Guide*
Migration instructions	*CONTROL-M/Enterprise Manager Migration Guide*

Japanese

CONTROL-M products, such as BMC Batch Impact Manager, can run on Japanese-enabled operating systems.

BMC Batch Impact Manager does not accept Japanese characters in any free text fields or parameters and display values only in English. For example, Japanese job SYSOUTs do not display correctly. Therefore, in these cases, job SYSOUT analysis is not possible.

Japanese configuration and installation instructions for running BMC Batch Impact Manager with Japanese-enabled operating systems are provided in the *CONTROL-M Language Customization Guide*.

Terminology

The following table lists abbreviations and terms used in this user guide:

Term	Description
BMC Batch Impact Manager Job	A “dummy” job that depends on a chain of jobs that comprise a critical batch service.
BMC Batch Impact Manager Server	The BMC Batch Impact Manager server is the component that interfaces with CONTROL-M/EM and performs calculations for BMC Batch Impact Manager services. (This application can run on the same computer on which CONTROL-M/EM runs.)
BMC Batch Impact Manager Web Application	This component functions “behind the scenes” to interface between the BMC Batch Impact Manager Server and the Web Client.
BMC Batch Impact Manager Web Client	This component enables any user to view the status of all BMC Batch Impact Manager services and view reports on any computer using a browser.
BMC Impact Explorer (BMC IX)	BMC Impact Explorer provides a cross-platform operator, administrator, and service manager interface for defining and managing events and services models, including those of BMC Batch Impact Manager. For example, in BMC IX’s Services View, you can check the status of BMC Batch Impact Manager services.
BMC Impact Manager (BMC IM)	This component provides the event management and service impact management technologies; BMC IM receives and processes events, provides event management rules and policies, provides service modeling functions including those of BMC Batch Impact Manager, and controls access to data according to user roles.
BMC Service Impact Manager (BMC SIM)	A BMC Impact solution that provides service modeling for aligning IT systems with business services (including BMC Batch Impact Manager services) and provides impact analysis tools for identifying and managing the real-time impact of IT outages on business and customers.
CONTROL-M/Agent	Software responsible for job submission and execution. An Agent must exist on each computer that is used to execute CONTROL-M jobs.
CONTROL-M/Desktop	CONTROL-M/Desktop is a client component of CONTROL-M/EM. It is a production design and definition system for creating and maintaining job processing definitions and calendars.
CONTROL-M/EM	CONTROL-M/Enterprise Manager. This is the central GUI-based control center for managing all scheduling and workflow activities in CONTROL-M.
CONTROL-M/EM GUI Server	The GUI Server handles communication between each CONTROL-M/EM GUI and the other components of CONTROL-M/EM and BMC Batch Impact Manager.
CONTROL-M/Server	The engine (on a UNIX or Microsoft Windows computer) used to drive scheduling in a data center. Each CONTROL-M/Server can manage multiple CONTROL-M/Agents on various platforms.

Term	Description
Problematic Job	Any job in a service that is not running on time, and, as a result, will impact the service. **Note:** Not all jobs that fail or are late are problematic.
Service	A set of jobs that are critical to the client's business. A batch service is a set of batch jobs that are critical to the client's business.

Chapter 3

Installation

This chapter describes how to install BMC Batch Impact Manager at your site. When you complete the tasks in this chapter, the following BMC Batch Impact Manager components will be installed on the relevant computers:

- the BMC Batch Impact Manager Server
- the BMC Batch Impact Manager Web Application

BMC Batch Impact Manager is operational only when installed with CONTROL-M/Enterprise Manager; it cannot provide any independent functionality.

It is possible to install BMC Batch Impact Manager on multiple CONTROL-M/EM installations. However, only one instance of BMC Batch Impact Manager can be up and running, and this instance serves all GUI servers.

This chapter presents the following topics:

Migrating from earlier versions 50
Installing BMC Batch Impact Manager Server 50
Checking requirements 50
Installing BMC Batch Impact Manager Server on UNIX 50
Installing BMC Batch Impact Manager Server on Microsoft Windows 51
Completing the BMC Batch Impact Manager Server installation 53
Synchronizing computer clocks with CONTROL-M 53
Starting the BMC Batch Impact Manager Server 54
Installing the BMC Batch Impact Manager Web Application 54
Using the BMC Batch Impact Manager web client with the CONTROL-M/EM Web Application Server 54
BMC Batch Impact Manager Web Application deployment 55
BMC Batch Impact Manager Web Application requirements 55
Uninstalling BMC Batch Impact Manager and its components 55
Uninstall on Microsoft Windows 56
Uninstall on UNIX 56
Where to go from here 56

Migrating from earlier versions

If you have version 6.3.01, 6.2.01, 6.1.03, or 6.1.02 of BMC Batch Impact Manager installed, the migration process of CONTROL-M/EM 6.4.01 automatically migrates BMC Batch Impact Manager.

No further steps are required for migration.

Installing BMC Batch Impact Manager Server

First refer to the "Checking requirements" section and then refer to one of the following sections for instructions that are appropriate for your operating system:

- "Installing BMC Batch Impact Manager Server on UNIX" on page 50
- "Installing BMC Batch Impact Manager Server on Microsoft Windows" on page 51

Checking requirements

The checklist in Table 3 summarizes the preparations for installing BMC Batch Impact Manager.

Table 3 Installation preparation checklist

Consideration or requirement	Enter information here, or check when done
Ensure that a full installation of CONTROL-M/EM version 6.4.01 or higher is installed on the target computers.	

Installing BMC Batch Impact Manager Server on UNIX

To install the BMC Batch Impact Manager Server, use the same account that was used to install the CONTROL-M/EM Server.

1. Ensure that the database server that contains the CONTROL-M/EM database is up and running.
2. Mount the installation DVD.
3. Log on as a CONTROL-M/EM user, using the account where CONTROL-M/EM Server is installed.

4 Type the following command:

dvdDrive/unix/setup.sh

5 Follow the instructions until the installation completes.

Where to go from here

Go to "Completing the BMC Batch Impact Manager Server installation" on page 53.

Installing BMC Batch Impact Manager Server on Microsoft Windows

BMC Batch Impact Manager Server can be installed on Microsoft Windows either using an interactive procedure or a batch file (silent installation) as described in the following sections.

Interactive installation

1 Ensure that the database server that contains the CONTROL-M/EM database is up and running.

2 Exit all open instances of the CONTROL-M/EM GUI and CONTROL-M/Desktop.

3 If you are installing from a remote DVD drive, the DVD drive should be mapped to the computer that is running the installation.

4 Insert the installation DVD and run **<*dvdPath*>\setup.exe**.

NOTE

Depending on your Windows security settings, you may receive a Microsoft warning about running the BMC Software installation file. You can safely ignore this message.

5 When the installation wizard is displayed, follow the instructions until the installation completes.

Silent installation

Silent installation is used to install BMC Batch Impact Manager Server from a batch file. Note that it is not supported for Windows cluster environments.

Two stages are involved:

1. **Preparing the batch file**

   This is accomplished by running a silent installation preparatory procedure from the installation DVD. The preparatory procedure behaves like the interactive installation procedure and prompts you to enter the same information. However no installation is performed. Instead, the information you enter is stored in a batch file.

2. **Running the prepared batch file**

   When the prepared batch file is run, BMC Batch Impact Manager Server is installed using the parameters you specified in the previous step. You can reuse this batch file to silently install BMC Batch Impact Manager Server on other computers.

To prepare the silent installation batch file

1 If your database server is Oracle, MSSQL, or Sybase, ensure that you follow the instructions described in the *CONTROL-M Installation Guide*.

2 If the installation DVD will be accessed through a network, you must first map the DVD drive and assign a drive letter.

3 Insert the installation DVD into the mapped drive, navigate to the installation folder, and run the following command:

<*dvdPath*>\prep_silent.bat

WARNING

If the security settings at your site do not allow the “ping” command to be used, the **“%Source_dir%setup.bat”...** line in the **prep_silent.bat** file must be modified as follows:

“%Source_dir%setup.bat”/s /v”BMC_SILENT_INSTALL=\”Y\” BMC_SKIP_PING=\”Y”<SPACE>/l*v\”%InstallLogFile%\””

It is necessary to copy the **prep_silent.bat** file to a local drive to facilitate this change. After making the change, run the modified **prep_silent.bat** file from the local drive.

4 After selecting the type of installation required and entering the necessary parameters values at the prompts, select **Save & Exit** to save the parameters. The parameters are saved to: **%TEMP%\BMC_BIM_silent.bat**.

To install silently

1 Log on to the target computer using an ID with Administrator privileges.

2 Run the following command from the installation DVD to install **.Net Framework 2.0.**

dotnetfx.exe /q:a /c:"install /l /q”

3 If the **BMC_BIM_silent.bat** file will be accessed through a network, you must first map the DVD drive and assign a drive letter.

4 Open a command prompt window, navigate to the path where the **BMC_BIM_silent.bat** file now resides, and run the silent installation by issuing the following command:

<*path*>\BMC_BIM_silent.bat

Completing the BMC Batch Impact Manager Server installation

The following tasks must be performed after installation:

1. “Synchronizing computer clocks with CONTROL-M” on page 53
2. “Starting the BMC Batch Impact Manager Server” on page 54

Synchronizing computer clocks with CONTROL-M

For BMC Batch Impact Manager to perform its calculations correctly, the clocks on the computers running BMC Batch Impact Manager and CONTROL-M should be synchronized. (It is acceptable for the clocks to be set according to different time zones.)

No synchronization is necessary if the BMC Batch Impact Manager Server and CONTROL-M are located on the same computer.

Follow instructions for your computers and operating systems to synchronize the clocks. If the clocks cannot be synchronized, ensure that you allow for this discrepancy by specifying a job run time tolerance value in the BMC Batch Impact Manager service definitions, for all the services you create for that CONTROL-M installation.

Starting the BMC Batch Impact Manager Server

During installation, if a CONTROL-M/EM GUI server is already defined, the installation process defines and starts a BMC Batch Impact Manager server . If for some reason the BMC Batch Impact Manager server is not running, use the following procedure to start it.

To start the BMC Batch Impact Manager Server

1 Start CONTROL-M Configuration Manager by choosing **Programs => CONTROL-M/Enterprise Manager <*version*> =><*instance name*> => CONTROL-M Configuration Manager** from the Microsoft Windows Start menu.

2 Start BMC Batch Impact Manager Server.

Installing the BMC Batch Impact Manager Web Application

The BMC Batch Impact Manager Web Application is deployed in a web application server, and handles communication between BMC Batch Impact Manager Server and the BMC Batch Impact Manager Web Client.

Using the BMC Batch Impact Manager web client with the CONTROL-M/EM Web Application Server.

1 Start the CONTROL-M/EM web server, using one of the following scripts:

- Windows: **<*CONTROL-M/EM_directory*>\Default\ECSBimServer\bin\ear (or war)**
- UNIX: **<*CONTROL-M/EM_directory*>/scripts/start_web_server.sh**

2 To open the BMC Batch Impact Manager web application login page, use your web browser to navigate to **http://<*emServerHost*>:18080/bim**.

NOTE

The BMC Batch Impact Manager Server web application is automatically deployed in the CONTROL-M Web Server that is provided with CONTROL-M/EM.

BMC Batch Impact Manager Web Application deployment

To access the BMC Batch Impact Manager through the web client in a browser, you must deploy the web client in your web application server.

You can deploy the BMC Batch Impact Manager web application for the web application server used at your site.

The **bim.ear** and **bim.war** compressed files are the BMC Batch Impact Manager Web Application deployment files. The files are located in one of the following directories:

- Windows: **<*emHomeDir*>\bim\webapp** directory
- UNIX: **<*emHomeDir*>*/appl/*bim/webapp** directory

BMC Batch Impact Manager Web Application requirements

Deploy the BMC Batch Impact Manager Web Application on computers with a web application server that supports Java Server Pages (JSP).

The web application server does not need to be installed on computers where the BMC Batch Impact Manager Server is installed. Therefore, the web application server can be outside of your site's firewall.

Uninstalling BMC Batch Impact Manager and its components

To uninstall BMC Batch Impact Manager, perform the steps relevant to your operating system:

- Uninstall on Microsoft Windows
- Uninstall on UNIX

Uninstall on Microsoft Windows

NOTE

Before beginning the uninstall procedure, ensure that all jobs have ended and that the BMC Batch Impact Manager process has been shut down.

The database must be running for the uninstall procedure to work properly.

1 From the Start menu, choose **Settings => Control Panel**, and double-click **Add/Remove Programs**.

2 Select **BMC Batch Impact Manager 6.4.01** and click **Add/Remove**.

The uninstallation procedure is complete.

Uninstall on UNIX

NOTE

Before beginning the uninstall procedure, ensure that all jobs have ended and that the BMC Batch Impact Manager process has been shut down.

1 Log onto the account where BMC Batch Impact Manager is installed.

2 Run the following command to uninstall BMC Batch Impact Manager:

$HOME/BMCINSTALL/uninstall/bim_uninstall.sh

3 Answer the prompt that appears. Entering **Y** will complete the uninstall procedure.

Where to go from here

After you have completed the installation procedures, you can proceed to Chapter 4, “Getting Started.”

Chapter 4

Getting Started

This chapter describes how to ensure that your BMC Batch Impact Manager installation can start running.

This chapter presents the following topics:

Synchronizing BMC Batch Impact Manager with CONTROL-M servers 57
Setting CONTROL-M security 58
Working in z/OS environments 59
z/OS patch requirements 59
Where to go from here 60

Synchronizing BMC Batch Impact Manager with CONTROL-M servers

Before using BMC Batch Impact Manager, ensure that the following attributes are correctly set for each CONTROL-M server:

- New Day Time
- Time Zone
- Daylight Saving Time (Start and End dates)

BMC Batch Impact Manager uses the CONTROL-M/EM time settings for each of the CONTROL-M servers. For CONTROL-M/EM 6.2.01, and previous versions, you must manually specify the above three attributes. For CONTROL-M/EM 6.3.01, and later versions, using the managed option ensures that CONTROL-M/EM is automatically synchronized with the CONTROL-M servers, and the user is only required to manually configure the Daylight Saving Time attributes.

To synchronize BMC Batch Impact Manager with a CONTROL-M server

1 Open CONTROL-M Configuration Manager.

2 In the Components window select a CONTROL-M server.

3 Select **Components->Properties**.

4 In the CONTROL-M Definition dialog box, select the appropriate **Time Zone** and **New Day Time** values. If the CONTROL-M server is managed, the values for these time attributes cannot be adjusted. For daylight saving time, check **Daylight Saving Time** and select the appropriate **Start** and **End** dates.

Setting CONTROL-M security

BMC Batch Impact Manager requires a user name to connect to CONTROL-M/EM. The BIMUserName system parameter defines the user name. By default, BMC Batch Impact Manager uses the **bimuser** user name.

NOTE

Before changing bimuser, ensure that the new user name already exists in CONTROL-M/EM. (If it does not exist, create it before changing bimuser.) The BMC Batch Impact Manager user name is a hidden user, so if a new user name is indicated here it will also become hidden.

NOTE

If CONTROL-M/EM is configured to work in SSL mode, see the BMC Batch Impact Manager communication information in the *CONTROL-M SSL Guide*.

In CONTROL-M 6.4.01, a user name is already defined (default: **bimuser**) with the necessary privileges that enables BMC Batch Impact Manager to connect to CONTROL-M.

When using BMC Batch Impact Manager with previous versions of CONTROL-M, and if CONTROL-M Security is applied you must add a BMC Batch Impact Manager user name and ensure that this user has the necessary privileges.

In CONTROL-M for z/OS, you must add a user that will be used by BMC Batch Impact Manager. By default, BMC Batch Impact Manager uses the **bimuser** user name. For information on setting the privileges for the user name, see the *INCONTROL for z/OS Security Guide*.

Use Active Jobs File Authorization to add the following privileges:

- Order
- Force
- Rerun
- Hold
- Log
- Zoom-and-Save
- Kill job

See the *CONTROL-M Administrator Guide* for details about setting user authorizations.

Working in z/OS environments

This section describes the requirements for enabling BMC Batch Impact Manager to work with CONTROL-M for z/OS.

z/OS patch requirements

You must install the following patches (PTFs) to enable BMC Batch Impact Manager to work with CONTROL-M for z/OS:

- PA07161
- PA07163
- PA07160
- PA07162
- PA08512
- PA08514
- PA08511
- PA08513
- PA11112
- PA11113
- PA17125
- PA17239
- PA17242

Note: These patches are available from the Customer Support page on the BMC Software website at http://www.bmc.com/support_home

Where to go from here

Proceed to one of the following configuration tasks in Chapter 5, “Configuration”.

Configuration Task	Page
“Working with firewalls”	62
“Working with BMC Remedy ITSM - Incident Manager”	62
“Configuring BMC Service Impact Manager”	63
“Working with SAP NetWeaver Portal 6.0”	67

Configuration

This chapter describes how to configure your BMC Batch Impact Manager environment.

This chapter discusses the following topics:

Changing CONTROL-M and BMC Batch Impact Manager defaults 61
Working with firewalls 62
Working with BMC Remedy ITSM - Incident Manager. 62
Fixing an issue 63
Configuring BMC Service Impact Manager. 63
Working with SAP NetWeaver Portal 6.0 67
Where to go from here. 69

Changing CONTROL-M and BMC Batch Impact Manager defaults

BMC Batch Impact Manager is supplied with a set of default CONTROL-M initialization and system settings, such as those that determine how BMC Batch Impact Manager displays jobs. You can change these default settings to meet the needs of your particular data center. Your customized settings will then become the default settings for BMC Batch Impact Manager.

To change these defaults, modify the following system parameters using the CONTROL-M Configuration Manager:

- BackupGUIServers – GUI Servers to use in case there is a problem with the primary GUI Server. Enter the fully qualified host names as a comma seperated list for each GUI Server, such as gsr1.bmc.com, gsr2.bmc.com.

- BIMUserName – The user name that BMC Batch Impact Manager uses when connecting to CONTROL-M/EM. Default user name is bimuser.

- DateFormat – Format in which dates are displayed in the BMC Batch Impact Manager Web Client or by the bim_report utility. Default format is **DD/MM**.

- DefaultAverageTime – Average run time for jobs with no statistics. In the format HH:MM or HH:MM:SS. This value is often used if no statistics are available. Default value is **00:05** (5 minutes).

- JobNameMode – The field used to identify a job in CONTROL-M. The default mode searches Job Name for CONTROL-M for UNIX and Microsoft Windows and Member Name for CONTROL-M for z/OS. Default value is **JOBNAME/MEMNAME**.

For more information, see "Configuring BMC Batch Impact Manager using system parameters" on page 132.

For detailed instructions on using the CONTROL-M Configuration Manager, see the *CONTROL-M Administrator Guide*.

For a list and descriptions of the system parameters that affect BMC Batch Impact Manager, see "Configuring BMC Batch Impact Manager using system parameters" on page 132.

Working with firewalls

When working with firewalls, follow the instructions provided in the CORBA chapter in the *CONTROL-M Administrator Guide* to set a predefined port for BMC Batch Impact Manager use.

Working with BMC Remedy ITSM - Incident Manager

The BMC Batch Impact Manager Server can automatically open incidents (previously called tickets) that can be monitored by BMC Remedy IT Service Management (previously called Remedy Help Desk), indicating that a critical service is problematic.

NOTE

For more information on configuring the connection to the BMC Remedy ITSM server, see the *CONTROL-M Administrator Guide*.

Fixing an issue

When an issue is fixed, BMC Batch Impact Manager automatically changes the status of the incident to Resolved or Closed.

Configuring BMC Service Impact Manager

If you are using BMC Batch Impact Manager with the BMC Service Impact Manager solution, you must complete the configuration procedures in this section.

Use one of the following procedures, based on your operating system, to configure BMC Service Impact Manager: then use the procedure, "To configure the BMC Batch Impact Manager computer" on page 66 to configure BMC Batch Impact Manager.

- "To configure BMC Service Impact Manager on Microsoft Windows" on page 63
- "To configure BMC Service Impact Manager on UNIX" on page 65

Then use the procedure, "To configure the BMC Batch Impact Manager computer" on page 66 to configure BMC Batch Impact Manager.

The basic products and components that compose the BMC Service Impact Manager solution, such as BMC Impact Manager and BMC Impact Explorer, are described briefly under "Terminology" on page 47.

BMC Service Impact Manager (BMC SIM) solution versions 3.1.00 through 7.0.00 are supported.

To configure BMC Service Impact Manager on Microsoft Windows

1 Create a temporary directory.

2 From the BMC Batch Impact Manager installation CD, copy the contents of one of the **bim_impact** subdirectories to the temporary directory, as follows:

- For BMC Service Impact Manager versions earlier than version 5.0.00, copy the contents of the **bim_impact\dynamic** subdirectory.

  Dynamic implementation means that BMC Batch Impact Manager can add nodes to BMC Service Impact Manager when updating information about critical batch services. BMC Service Impact Manager 5.0.*x* does not support the addition of new nodes in this manner.

- For BMC Service Impact Manager 5.0.*x*, copy the contents of the **bim_impact\static** subdirectory.

Static implementation means that BMC Batch Impact Manager cannot add nodes in BMC Service Impact Manager, but can only modify existing nodes. Earlier versions of BMC Service Impact Manager support both static and dynamic implementations.

3 Edit the first three lines of the **load.cmd** file according to Table 4.

Table 4 Changes to make in the load.cmd file

Parameter	Change value to
MASTERCELL_HOME	name of the directory in which BMC Service Impact Manager is installed
CELLID	ID of the cell (BMC Service Impact Manager instance) with which you will work
PERL	full path of the directory containing the **perl.exe** file, which is installed during the BMC Service Impact Manager installation

EXAMPLE

```
set MASTERCELL_HOME=d:\program files\BMC Software\MasterCell
set CELLID=tlvw2k424
set PERL=D:\Perl\bin\perl.exe
```

4 Save the **load.cmd** file.

5 Open a Command Prompt window.

6 Navigate to the temporary directory that contains the files copied from the installation CD.

(This is the directory you created in step 1.)

7 Open the Microsoft Windows Services utility and ensure that the mcell_*cellID* service is running.

8 Run the following command:

```
load.cmd > load.log
```

WARNING

You must regularly check that the mcell service is running, and refresh the display periodically by pressing **F5**. If the mcell service stops, restart it. You might have to restart the mcell service several times while **load.cmd** is running.

9 Close the Command Prompt window.

10 Ensure that you keep the **load.log** file that is generated by **load.cmd**, in case services do not get transferred to BMC Service Impact Manager.

NOTE

To send alerts to BMC Service Impact Manager using the BMC Batch Impact Manager, you must specify a BMC Service Impact Manager service model component to which the new service model component for the BMC Batch Impact Manager service should connect. If the BMC Service Impact Manager service model component is not already defined, ensure that BMC Service Impact Manager can enable the connection between the two service model components.

To configure BMC Service Impact Manager on UNIX

1 Create a temporary directory.

2 From the BMC Batch Impact Manager installation CD, copy the contents of one of the **bim_impact** subdirectories to the temporary directory, as follows:

- For BMC Service Impact Manager versions earlier than version 5.0.00, copy the contents of the **bim_impact/dynamic** subdirectory.

  Dynamic implementation means that BMC Batch Impact Manager can add nodes to BMC Service Impact Manager when updating information about critical batch services. BMC Service Impact Manager 5.0.*x* does not support the addition of new nodes in this manner.

- For BMC Service Impact Manager 5.0.*x*, copy the contents of the **bim_impact/static** subdirectory.

  Static implementation means that BMC Batch Impact Manager cannot add nodes in BMC Service Impact Manager, but can only modify existing nodes. Earlier versions of BMC Service Impact Manager support both static and dynamic implementations.

3 Copy the ctm_bim_classes.baroc file to the BMC SIM classes directory, called `%MCELL_HOME%/etc/%CELLID%/kb/classes`.

4 Add “ctm_bim_classes” to the end of the .load file, located in `%MCELL_HOME%/etc/%CELLID%/kb/classes/.load`

5 Copy the ctm_bim_rules.mrl file to SIM rules directory, called `%MCELL_HOME%/etc/%CELLID%/kb/rules`.

6 Add “ctm_bim_rules” to the end of the .load file, located at `%MCELL_HOME%/etc/%CELLID%/kb/rules/.load`.

The BMC SIM engine compiles all files listed in this file.

7 Run the following command to compile the database:

```
%MCELL_HOME%/server/bin/mccomp" -v
%MCELL_HOME%/server/etc/%CELLID%/kb/manifest.kb
```

8 Run the following commands to reload the database:

```
%MCELL_HOME%/bin/mcontrol -n  %CELLID%  reload data
```

```
%MCELL_HOME%/bin/mcontrol -n  %CELLID%  reload kb
```

```
%MCELL_HOME%/bin/mcontrol -n  %CELLID%  reload collect
```

NOTE

To send alerts to BMC Service Impact Manager using the BMC Batch Impact Manager, you must specify a BMC Service Impact Manager service model component to which the new service model component for the BMC Batch Impact Manager service should connect. If the BMC Service Impact Manager service model component is not already defined, ensure that BMC Service Impact Manager can enable the connection between the two service model components.

To configure the BMC Batch Impact Manager computer

1 Locate the **mcell.dir** file, which is located in one of the following directories, depending on operating system:

- on Microsoft Windows:
  $EM_HOMEForTheCONTROL-M/EMUserAccount
  \bim\ImpactClient
- on UNIX:
  $EM_HOMEForTheCONTROL-M/EMUserAccount
  /appl/bim/ImpactClient

2 Edit the cell parameter line in the **mcell.dir** file by entering the correct cell ID, computer, and port number (Default port is **1828**) in the following format:

cell SIMCELL mc *COMPUTER:PORT*

3 Save the **mcell.dir** file.

4 Close the Configuration Manager.

Working with SAP NetWeaver Portal 6.0

BMC Batch Impact Manager provides you with a business package that can be used within the SAP NetWeaver Portal 6.0. The following section describes how to implement this business package.

To deploy and import the business package

1 Deploy the file **<*bimInstallationDirectory*>/bin/ear/bim.ear** to your SAP NetWeaver application server, following the instructions found in your SAP documentation.

2 Within the Enterprise Portal, following the instructions found in your SAP documentation, import the BMC Batch Impact Manager .epa file: **BUSINESS_PACKAGE_FOR_BMC_BIM_60_1.epa**.

The .epa file is located within the **sap_netweaver** subdirectory on the BMC Batch Impact Manager installation CD.

3 To verify that the .epa file was properly imported, select **Content Administration => Portal Content** in the Enterprise Portal. Check that the following file hierarchy exists:

Content Provided by Other Vendors

- Content For Specialists
  - BMC Software: Batch Impact Manager
    - Views
    - Pages
    - Worksets
    - Roles
    - Packages
    - Systems

To configure the system definition properties

1 Within the Enterprise Portal **System Administration** tab, select **System Configuration => System Landscape**.

2 Within the **Browse** tab, locate the following: **Portal Content => Content Provided by Other Vendors => Content for Specialists => BMC Software: Batch Impact Manager => Systems.**

3 From the **Property Category** list, select **System Definition**.

4 Select **Batch Impact Manager**, and select **Open => Object**.

5 Fill in the fields as follows:

Field	Definition
Name of the server	The host name of the SAP NetWeaver application server where BMC Batch Impact Manager is deployed (see "To deploy and import the business package" on page 67).
Port number	The port number of the above server.
Protocol	Select HTTP or HTTPS.
URI of web application	Do *not* change the default definition.

6 Click **Save**.

7 From the **Display** list, select **System Aliases**.

8 Type **BMC_BIM** and click **Add**.

9 Click **Save**.

To define the user mapping details

1 From the **User Administration** tab, select **User Mapping**.

2 Locate your portal user in the list of users, and click **Edit**.

3 From the **System** list, select **BMC_BIM**.

4 In the **User** and **Password** fields, type your BMC Batch Impact Manager user name and password.

5 Click **Save**.

To assign the BMC Batch Impact Manager role

1 From the **User Administration** tab, select **Roles**.

2 Locate your portal user in the list of users, and click **Edit**.

3 Assign the following role to this user:
com.bmc.pct.bim.batchImpactManager_showcase.

4 Click **Save**.

5 After refreshing your display, the **Batch Impact Manager** tab is displayed.

Where to go from here

Proceed to Chapter 6, “Defining services to identify and handle problems”.

Chapter 6

Defining services to identify and handle problems

This chapter presents the following topics:

Identifying jobs that must complete on time 72
Setting job dependencies 73
Setting time limitations by which the service must complete 74
Setting status indicators for service jobs 74
Determining which events might cause delays 75
Creating rules to handle events 75
Guidelines for defining BMC Batch Impact Manager jobs 76
Defining and tracking a critical batch service 76
Defining BMC Batch Impact Manager jobs 77
Understanding the BIM panel in the job editing form 79
    General 80
    Service alerting rules 80
    Time constraints 90
Accounting for exceptions and external events 92
    External Events 92
Where to go from here 97

Identifying jobs that must complete on time

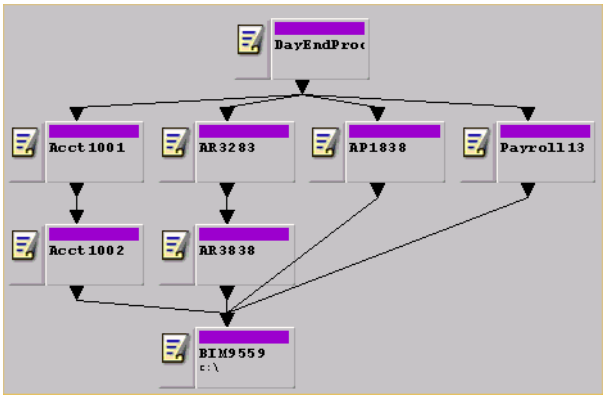
When defining a service, the first step is to identify a set of dependent jobs that represent a critical batch service that must complete by a certain time. BMC Batch Impact Manager analyzes the performance of this set, or *chain*, of jobs to calculate if the service will end on time.

Once you have identified the chain of jobs, a new BMC Batch Impact Manager job must be defined so that it, too, depends on the other jobs. The BMC Batch Impact Manager job must be defined as the last job in the chain. BMC Batch Impact Manager considers any jobs defined *above* the BMC Batch Impact Manager job as part of a batch service.

EXAMPLE

All jobs defined below are part of the critical service because the BIM9559 BMC Batch Impact Manager job depends on them, either directly or indirectly.

A BMC Batch Impact Manager job and its associated jobs



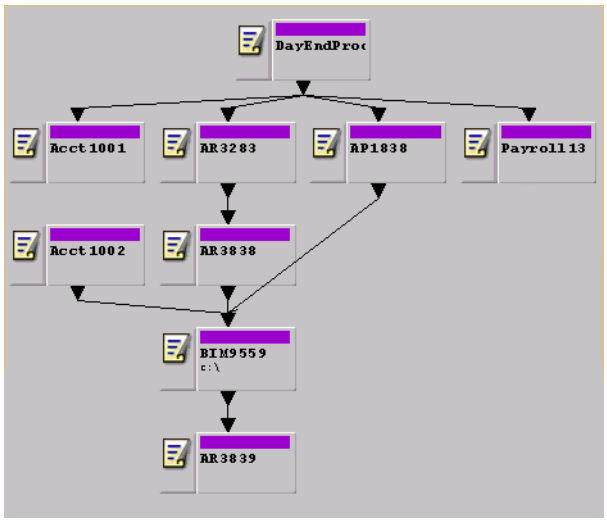
EXAMPLE

In the following figure, only the following jobs are part of the critical service.

- DayEndProc
- Acct1002
- AR3283
- AR3838
- AP1838

The BIM9559 BMC Batch Impact Manager job is not dependent, either directly or indirectly, on jobs Acct1001 and Payroll13 and therefore these jobs are not part of the critical service.

A BMC Batch Impact Manager job, its associated jobs, and non-associated jobs



The BMC Batch Impact Manager job does not effect job processing and is therefore defined as a *dummy* job. This job was defined using the BIM panel of the job editing form.

Setting job dependencies

Job dependencies are created by defining conditions with prerequisite conditions (On statements and, optionally, Do Condition statements). Because dependencies (conditions) between jobs can be defined using logical operators such as And, Or, and parentheses, consider the following:

- If a job in the critical service is dependent on two jobs linked using the And operator, the time necessary for *both* linked jobs to complete determines when the critical service will complete (meaning, the longest possible time for both jobs).

- If a job in the critical service is dependent on two jobs linked using the Or operator, the time necessary for *only one* of the two jobs to complete determines when the critical service will complete (meaning, the shortest possible time for one job).

NOTE

In this case, the minimum amount of time for the critical service to complete is displayed (even though the maximum path is also calculated for statistics and reference).

Failure of a job within a service does not necessarily mean that the service is adversely affected. A job is considered problematic only if its failure, lateness or being ahead of schedule impacts the deadline by which a service must complete.

EXAMPLE

If a job in a service fails, but the job is linked to other jobs in the service using the Or operator, the job has no impact on the service as a whole and is therefore not problematic. If that same job is linked to other jobs in the service using the And operator, the failure of the job does impact the service and is considered problematic.

Setting time limitations by which the service must complete

Time limitations can be set to indicate at what point a delay in a service will adversely impact business. Services that do not complete within these time limitations are considered delayed, or late. The time by which service must be completed is specified by either a specific time or relative to the ordering time.

Time limitations are defined in the BIM panel of the job editing form in CONTROL-M / Desktop.

Setting status indicators for service jobs

Job run-time tolerance can be set to determine at what point jobs that finish running either too quickly or running too long will trigger a warning so that adjustments can be performed before there is an adverse business impact. Acceptable job run-time tolerance can be specified:

- by a percentile range, expressed in terms of standard deviations from the average job run time

- relative to the average run times, either by a percentage of the total run time for the job or by a specific number of minutes.

Job run-time tolerance is defined in the BIM panel of the job editing form in CONTROL-M / Desktop.

Determining which events might cause delays

Events are occurrences that might delay a service, such as the following:

- an entire service will be late
- a job in the service failed, so the entire service will not complete
- a job in the service ran longer than expected
- a job in the service finished early, suggesting that the job did not run correctly

Rules can be defined to indicate the actions BMC Batch Impact Manager should take to handle these events.

Events are defined using the On Event parameter in the BIM panel of the job editing form in CONTROL-M / Desktop.

Creating rules to handle events

The following BMC Batch Impact Manager actions can be defined using *rules* to handle events that might delay the service:

- Jobs in the service can be forced to a status of OK, even if a job failed.
- Jobs in the service can be rerun.
- Jobs in the service can be killed.
- AutoEdit variables can be set for the BMC Batch Impact Manager job.
- Conditions can be added or deleted.
- Events arising from external applications can be added.
- E-mail messages can be sent.
- An event can be sent to BMC Service Impact Manager.
- A Shout message can be sent to the CONTROL-M / EM Alerts facility.
- The time allocated for the service to complete can be increased.
- An incident can be opened in BMC Remedy IT Service Management.

Actions are defined using the Do Action parameter in the BIM panel of the job editing form in CONTROL-M / Desktop.

Guidelines for defining BMC Batch Impact Manager jobs

Consider the following while defining chains of jobs as critical services:

- All jobs linked to the BMC Batch Impact Manager job “from above”, using prerequisite conditions (and, optionally, the Do Condition statements), are defined in the chain of jobs.
- An unlimited number of jobs can be defined as a critical service.
- Names for critical services must be unique.
- Jobs defined and running on different CONTROL-M data centers and on different operating systems can be included in the same chain.
- All jobs defined in the same chain, including the BMC Batch Impact Manager job, must be scheduled at the same time. Therefore, BMC Software recommends that you define the BMC Batch Impact Manager job in the same scheduling table as the other jobs in the service.
- BMC Batch Impact Manager jobs might be associated with group scheduling tables.
- BMC Batch Impact Manager jobs might be linked to BMC Batch Impact Manager jobs.

Defining and tracking a critical batch service

This section is an overview of the life cycle of a batch service, from its creation until its submission. Table 5 lists all the tasks involved in defining and tracking a service, and where instructions can be found for each task.

Table 5 Overview of defining and tracking a critical batch service (part 1 of 2)

Product	Task	Reference
CONTROL-M/Desktop	1. Identify the chain of jobs that comprise the critical service, and define a BMC Batch Impact Manager job at the end of the chain.	Chapter 6, “Defining services to identify and handle problems”
CONTROL-M/Desktop	2. Writing the scheduling table to CONTROL-M/EM	*CONTROL-M User Guide*

Table 5 Overview of defining and tracking a critical batch service (part 2 of 2)

Product	Task	Reference
CONTROL-M / Desktop	3. Uploading the scheduling table for the service to CONTROL-M	*CONTROL-M User Guide*
CONTROL-M / Desktop	4. Ordering or forcing the scheduling table for the service	*CONTROL-M User Guide*
CONTROL-M / EM	5. Monitor progress of the jobs in the service as they are ordered, as they run, and as they complete.	*CONTROL-M User Guide*
BMC Batch Impact Manager Web Client or Services View in CONTROL-M / EM	6. Monitor progress of, and extend deadlines for, services as they run.	"Using the BMC Batch Impact Manager Web Client" on page 100 and the *CONTROL-M User Guide*
Services View in BMC Service Impact Manager	7. Monitor problematic services in BMC Service Impact Manager using the Services View.	"A brief glance at the Services view" on page 113

Defining BMC Batch Impact Manager jobs

BMC Batch Impact Manager jobs are defined using the job editing form in CONTROL-M / Desktop.

NOTE

For more information about the job editing form and its parameters, see the *CONTROL-M User Guide* and the *CONTROL-M Parameter Guide*.

The job editing form contains a series of panels. Each job processing definition is a collection of parameters and values specified using this form. The CONTROL-M BIM job type includes all BMC Batch Impact Manager parameters for defining and monitoring BMC Batch Impact Manager jobs.

NOTE

The following steps assume a basic knowledge of using CONTROL-M / Desktop for defining job definitions. For additional information, see the *CONTROL-M User Guide*.

1 Add a new job to the draft using the **New Job** option from the Edit menu. This will be the BMC Batch Impact Manager job.

2 From the **Apply Templates** list, select the template corresponding to your environment.

3 From the **Job Type** list, select **CONTROL-M BIM**.

4 Enter values for the BMC Batch Impact Manager job parameters (including dependencies) as described in "Understanding the BIM panel in the job editing form" on page 79.

A Ensure that the value of the Task Type parameter in the General panel is **Dummy**.

B Define the In conditions (and, optionally, Do Cond parameters) of the BMC Batch Impact Manager job so that the BMC Batch Impact Manager job is the last job at the end of the chain of jobs that will comprise the critical service.

TIP

You can also create dependencies between jobs in the flow diagram by clicking and dragging from one node to another.

C Ensure that the scheduling table in the Table parameter of the General panel is the same scheduling table for the other jobs in the service (or, alternatively, ensure that the BMC Batch Impact Manager job will be scheduled at the same time as the other jobs in the service).

TIP

Because the BMC Batch Impact Manager job could potentially be deleted after the New Day Procedure runs, BMC Software recommends that you set the Max Wait parameter to **2** in the Execution panel. This ensures that the BMC Batch Impact Manager job remains after the New Day Procedure runs.

D Select the BIM panel of the job editing form.

E Enter values for the fields in the BIM panel, as described under "Understanding the BIM panel in the job editing form" on page 79.

WARNING

The following symbols are not valid for any field on the BIM panel:

- Single quote (‘)
- Double quotation marks (**“**)
- Equals (=)
- Less than (<)
- Greater than (>)
- Ampersand (&)
- Backslash (\)

5 Click **Save & Close**. The job is added to the scheduling table specified in the General panel.

When the draft is written to CONTROL-M/EM, uploaded to CONTROL-M, and its jobs are scheduled, BMC Batch Impact Manager will track the progress of the critical services and provide early warning notification about delays in processing when necessary.

Understanding the BIM panel in the job editing form

The BIM panel is divided into the following parts:

- **General**
  This part of the panel is used to define basic information about the service. The fields in the top portion of the panel are described in Table 6.

- **Service alerting rules**
  This part of the panel is used to define rules. Rules list events that can trigger an action (such as providing early warning notification of the problem, or increasing the amount of time the critical service has to run). The fields use to define rules are described in Table 7.

- **Time constraints**
  This part of the panel is used to define time constraints used to determine if a critical service should be considered late, on time, or “reasonably” on time. The fields in this part are described in Table 10.

NOTE

A BMC Batch Impact Manager job can be created without rules. This might be useful for preliminary implementation of the product, for example to track services without doing any specific actions.

General

General parameters provide basic information about the service.

Table 6 General parameters in the BIM panel

Parameter	Description	
Service name	Logical name, from a user or business perspective, for the critical service (up to 64 characters). BMC Software recommends that the service name be unique. Mandatory.	
Priority	The priority level of this service, from a user or business perspective. The priority can be set from 1 (highest priority) to 5 (lowest priority), and enables filtering according to priority in the Business Services window and the Web Client. Default: **3**.	
Must Complete By	Time by which the critical service must be completed to be considered on time. The time can either be specified as a specific hour or be based on the order time. Mandatory.	
	At	Specific hour, in the format **hh:mm**, according to a 24-hour clock. The days subparameter determine on which day the critical service must complete, relative to ODATE. The value is specified in terms of the number of days after the order date of the service. 0 represents the order date, 1 represents one day after the order date, and so on. Default: 0
	After Order Time	A specified number of hours, minutes, and days after the order time for the job. The time is specified in the format hh:mm. Default: blank. Valid values range include 00:01 through 99:59.

Service alerting rules

Rules list events that can trigger an action (such as providing early warning notification of the problem, or increasing the amount of time the critical service has to run).

Events are defined using the On Event parameter.

Corresponding actions are defined using the Do Action parameter. Multiple Do Action parameters can be specified for the same event in the same rule.

A maximum of 28 rules can be specified.

Table 7 and Table 8 provide descriptions for all Service Alerting Rule parameters. At the end of this chapter, instructions are provided for the following tasks:

- Defining rules
- Modifying rules
- Deleting rules
- Using BMC Batch Impact Manager AutoEdit variables in rules

Table 7 Rule parameters in the BIM panel

Parameter	Description	
On Event	Events that indicate that there is a problem with the critical service or one of its jobs. When one of these events occur, actions can be done to either correct the problem or quickly notify others about the problem. Optional.	
	Job failure on service path	One or more of the jobs in the critical service failed and, as a result, caused a delay in the service. **Note**: A service is considered OK even if one of its jobs fails, provided that another job, with an Or relationship to the failed job, runs successfully.
	Service is late	The entire service is late according to BMC Batch Impact Manager calculations.
	Job ran too long	One of the jobs in the critical service is late. Lateness is calculated according to the average run time and the value of the Job Runtime Tolerance parameters. **Note**: A service is considered on time even if one of its jobs is late, provided that the service itself is not late.
	Job ended too quickly	One of the jobs in the critical service is early. Earliness is calculated according to the average run time and the value of the Job Runtime Tolerance parameters. **Note**: A service is considered on time even if one of its jobs is early.
Do Action	Specify action parameters that BMC Batch Impact Manager should perform when the corresponding event occurs. These action parameters can be performed only on jobs within the critical service (except for the Force-job action parameter, which can be performed on any job). For each action parameter, relevant subparameters are displayed. Action parameters and their corresponding subparameters are described briefly in Table 8.	

Table 8 lists each available **Do Action** parameter and its subparameters.

Table 8 Do Action parameters (part 1 of 8)

Parameter	Subparameter and Description	
OK	Sets the completion status of a job with a **Not OK** status to **OK**.	
	CONTROL-M	Name of the CONTROL-M of the job whose completion status should be set to **OK**. Mandatory. Maximum length: **20**
	Scheduling Table	Name of the table of the job whose completion status should be set to **OK**. Mandatory. Maximum length: **44** Quotation marks (**"**) might not be specified in this field.
	Job Name	Name of the job whose completion status should be set to **OK**. Mandatory. Maximum length: **64**
	Date	Order date of the job whose completion status should be set to **OK**, in **MM/DD** format. **ODAT** can be specified to indicate the date on which the action occurs. **PREV** can be specified to indicate the date prior to the date on which the action occurs. **NEXT** can be specified to indicate the date after the date on which the action occurs. Mandatory.
	Problematic Jobs	If checked: ■ The completion statuses of problematic jobs that will impact the service are set to OK. The completion statuses of failed jobs that do not impact the service are not reset. ■ The CONTROL-M, Scheduling Table, Job Name, and Date subparameters become irrelevant and are disabled.
	Note: If both of the following conditions are met, the OK action is performed on all jobs that match the criteria: ■ CONTROL-M, Scheduling Table, Job Name, and Date subparameters do not resolve to unique jobs. ■ Your site supports the ordering of multiple jobs with the same name, in the same scheduling table, in the same CONTROL-M, on the same date.	

Table 8 Do Action parameters (part 2 of 8)

Parameter	Subparameter and Description	
Rerun	Rerun a job that finished executing.	
	CONTROL-M	Name of the CONTROL-M of the job that should be rerun. Mandatory. Maximum length: **20**
	Scheduling Table	Name of the table of the job that should be rerun. Mandatory. Maximum length: **44**
	Job Name	Name of the job or member that should be rerun. Mandatory. Maximum length: **64**
	Date	Order date of the job that should be rerun, in **MM/DD** or **MMDD** format. **ODAT** can be specified to indicate the date on which the action occurs. **PREV** can be specified to indicate the date prior to the date on which the action occurs. **NEXT** can be specified to indicate the date after the date on which the action occurs. Mandatory.
	Problematic Jobs	If checked: ■ All problematic jobs that impact the service are rerun. Late jobs that do not impact the service are not rerun. ■ The CONTROL-M, Scheduling Table, Job Name, and Date subparameters become irrelevant and are disabled.
	Note: If both of the following conditions are met, the Rerun action is performed on all jobs that match the criteria: ■ CONTROL-M, Scheduling Table, Job Name, and Date subparameters do not resolve to unique jobs ■ Your site supports the ordering of multiple jobs with the same name, in the same scheduling table, in the same CONTROL-M, on the same date	

Table 8 Do Action parameters (part 3 of 8)

Parameter	Subparameter and Description	
Force-job	Forces a job to be ordered under CONTROL-M regardless of the scheduling criteria.	
	CONTROL-M	Name of the CONTROL-M of the job that should be forced. Mandatory. Maximum length: **20**
	Scheduling Table	Name of the scheduling table of the job that should be forced. Mandatory. Maximum length: **44**
	Scheduling Table Lib	For z/OS jobs: Name of the library of the scheduling table of the job that should be forced. Mandatory. Maximum length: **44** **Note:** Leave this field blank for all other jobs.
	Job Name	Name of the job or member that should be forced. Mandatory. Maximum length: **64**
	Date	Date of the job that should be forced, in **MM/DD** or **MMDD** format. **ODAT** can be specified to indicate the date on which the action occurs. **PREV** can be specified to indicate the date prior to the date on which the action occurs. **NEXT** can be specified to indicate the date after the date on which the action occurs. Mandatory.
	Notes: ■ Force-job can be specified for any job, including jobs that are not part of the batch service. ■ If both of the following conditions are met, the Force-job action is performed on all jobs that match the criteria: — CONTROL-M, Scheduling Table, Job Name, and Date subparameters do not resolve to unique jobs. — Your site supports the ordering of multiple jobs with the same name, in the same scheduling table, in the same CONTROL-M, on the same date.	

Table 8 Do Action parameters (part 4 of 8)

Parameter	Subparameter and Description	
Kill-Job	Kills a problematic job while it is still executing.	
	CONTROL-M	Name of the CONTROL-M of the job that should be killed. Mandatory. Maximum length: **20**
	Scheduling Table	Name of the table of the job that should be killed. Mandatory. Maximum length: **44**
	Job Name	Name of the job that should be killed. Mandatory. Maximum length: **64**
	Date	Order date of the job that should be killed, in **MM/DD** or **MMDD** format. **ODAT** can be specified to indicate the date on which the action occurs. **PREV** can be specified to indicate the date prior to the date on which the action occurs. **NEXT** can be specified to indicate the date after the date on which the action occurs. Mandatory.
	Problematic Jobs	If checked: ■ All problematic jobs that impact the service are killed. Late jobs that do not impact the service are not killed. ■ The CONTROL-M, Scheduling Table, Job Name, and Date subparameters become irrelevant and are disabled.
	Notes: ■ CONTROL-M for z/OS: Jobs running on CONTROL-M for z/OS cannot be killed. This functionality will be provided in a future release. ■ If both of the following conditions are met, the Kill-job action is performed on all jobs that match the criteria: — CONTROL-M, Scheduling Table, Job Name, and Date subparameters do not resolve to unique jobs. — Your site supports the ordering of multiple jobs with the same name, in the same scheduling table, in the same CONTROL-M, on the same date.	

Table 8 Do Action parameters (part 5 of 8)

Parameter	Subparameter and Description	
Set-Var	Assigns a value to an AutoEdit variable for use in CONTROL-M on the BMC Batch Impact Manager job level (not globally).	
	AutoEdit Variable Name	Name of a CONTROL-M variable to be set to the specified value. Maximum length: **38** The following characters are not permitted: ■ Colon (:) ■ Single quotation mark (‘) ■ Double quotation marks (“) ■ Comma (,) ■ Square brackets ([ ]) ■ Less than (<) ■ Greater than (>) ■ Braces ({ }) ■ Brackets (( )) ■ Equal (=) ■ Semi-colon (;) ■ Tilde (~) ■ Pipe or vertical bar (	) ■ Question mark (?) ■ Period (.) ■ Plus sign (+) ■ Asterisk (*) ■ Ampersand (&) ■ Caret (^) ■ Exclamation mark (!) **Note**: This value cannot have a **%%BIM** prefix.
	AutoEdit Variable Value	Value for the specified CONTROL-M variable. This value can be either a constant value, or a resolvable AutoEdit Expression. Maximum length: **214** This value cannot contain any BMC Batch Impact Manager (**%%BIM**) or application-specific job parameters. The names of application-specific job parameters are prefixed by two percent signs, the application’s abbreviation, and a hyphen (**%%SAPR3-** for SAP, **%%OAP-** for Oracle and so on).

Table 8 Do Action parameters (part 6 of 8)

Parameter	Subparameter and Description	
Condition	Specifies prerequisite conditions to be added or deleted.	
	CONTROL-M	Name of the CONTROL-M on which the prerequisite condition should be added or deleted. A space cannot be specified. Mandatory. Maximum length: **20**
	Name	Name of the prerequisite condition. Mandatory. Maximum length: **214** Invalid characters: **( ) |**
	Date	Date reference for the prerequisite condition. Mandatory. Dates can be specified in the following formats: ■ **MM/DD** ■ **ODAT** (the date on which the action occurs) ■ **STAT** (the condition that is not based on a date) ■ **PREV** (the date prior to the date on which the action occurs) ■ **NEXT** (the date after the date on which the action occurs)
	Add condition or Remove condition	Whether the specified condition should be added or deleted.
	Note: For CONTROL-M for z/OS, the BMC Batch Impact Manager user must have authorization in order to add and delete conditions.	
Mail	Sends an e-mail when the specified event occurs.	
	Email	The e-mail address of the recipient of the Mail message. Mandatory. Maximum length: **96**
	Subject	A brief message that can describe the contents of a longer message. Mandatory. Maximum length: **99**
	Message	The text of the message to be sent. Maximum length: **213**
	Click to open a dialog box that lets you view and edit the entire contents of the Subject and Message subparameters. AutoEdit variables might be specified in the dialog box. For more information, see "Using BMC Batch Impact Manager AutoEdit variables in rules" on page 90.	

Table 8 Do Action parameters (part 7 of 8)

Parameter	Subparameter and Description	
SIM	Sends early warning notification to, and displays the critical service in, BMC Service Impact Manager.	
	Connect to	The logical ID of the component (node) to which this service will be connected. Mandatory. Maximum length: **211** **Tip**: To ascertain the logical ID of the component: 1. Open BMC Service Impact Manager. 2. In the Services tab, select the component. The logical ID is displayed in the Basics tab at the lower part of the screen.
	Message	The message to be displayed in BMC Service Impact Manager. Mandatory. Maximum length: **211**
	Click ... to open a dialog box that lets you view and edit the entire contents of the Connect to and Message subparameters. AutoEdit variables might be specified in the dialog box. For more information, see "Using BMC Batch Impact Manager AutoEdit variables in rules" on page 90.	
Shout	Sends a message to the CONTROL-M Alert facility.	
	Message	Text of the message to be displayed in the Alerts window in CONTROL-M/EM. Mandatory. Maximum length: **213**
	Click ... to open a dialog box that lets you view and edit the entire contents of the Message subparameter. AutoEdit variables can be specified in the dialog box. For more information, see "Using BMC Batch Impact Manager AutoEdit variables in rules" on page 90.	
Increase	Allow the job or critical service to continue running by extending the deadline by which the job or service can run and still be considered on time.	
	Increase 'Must complete by'	Amount of time to add to the service in **HH:MM** format. Mandatory.

Table 8 Do Action parameters (part 8 of 8)

Parameter	Subparameter and Description	
Remedy	Opens a ticket in the Remedy Incident Manager Application regarding the critical service. Information regarding the tickets created by the service, including the related ticket IDs and statuses, appears in the service details, in both the Business Services window and the Web Client. **Note:** To enable this option, you must first configure the connection settings to your Remedy system. For details, see "Working with BMC Remedy ITSM - Incident Manager" on page 62.	
	Urgency	The urgency level of the ticket that will be opened in Remedy. Mandatory. Valid values are: ■ **L** = Low (Default) ■ **M** = Medium ■ **H** = High ■ **U** = Urgent **Note:** If this parameter is empty, the default value is used.
	Summary	A brief summary to be displayed in Remedy. By default, this field contains a summary of the event that occurred; each event type has a default summary. Mandatory. Maximum length: **128**
	Description	A detailed description to be displayed in Remedy. By default, this field contains a description of the event that occurred; each event type has a default description. Mandatory. Maximum length: **213**

Defining rules

1 In the BIM panel, choose an event in the On Event parameter.

2 Choose an action in the Do Action parameter. Depending on the action you choose, different subparameters are displayed.

3 Enter values in the relevant subparameters.

4 Click the check mark. The rule is added to the table portion of the BIM panel.

Modifying rules

1 In the table portion of the BIM panel, where rules are listed, click **Edit**. The values for the On Event and Do Action of the rule are displayed below the table.

2 Modify the On Event and Do Action parameters as desired.

3 Click the check mark to save the changes. The changes are updated in the table portion of the BIM panel.

Deleting rules

1 In the table portion of the BIM panel, where rules are listed, click **Delete**.

2 When prompted for confirmation, click **OK**.

Using BMC Batch Impact Manager AutoEdit variables in rules

The BMC Batch Impact Manager AutoEdit function consists of a group of special variables that can be used to make your rules more dynamic.

Using AutoEdit variables, you can pass specific information about changes in the status of a service using the Shout, Mail, SIM, or Remedy action parameters.

Table 9 lists BMC Batch Impact Manager AutoEdit variables.

Table 9 BMC Batch Impact Manager AutoEdit variables

Subject	Description
%%PROBLEMATIC_JOBS	Name of any job in a service that is not running on time, and, as a result, will impact the service. If more than one job is problematic, the names of all problematic jobs is returned.
%%SERVICE_DUE_TIME	Time by which the entire service should complete.
%%SERVICE_EXPECTED_END_TIME	Time BMC Batch Impact Manager estimates the service will complete.
%%SERVICE_NAME	Name of the service.
%%SERVICE_PRIORITY	Priority level of the service.

Time constraints

Time constraints define the criteria used to determine if a critical service should be considered late, on time, or “reasonably” on time.

Table 10 Time constraints parameters in the BIM panel

Parameter	Description	
Job Run-Time Tolerance	Allowance for a certain deviation from the average completion of the job before determining that a job in the service *ran too long* or *ended too early*. The tolerance can be defined: ■ as a percentile range (Default) ■ as a percentage of the average run time of the job ■ by minutes Job Run-Time Tolerance relates only to the average completion time for the job – not the service. The tolerance value affects the *Job ran too long* and *Job ended too quickly* job-related status, but not the *service is late* status. **Tip:** For BMC Batch Impact Manager to perform its calculations correctly, BMC Batch Impact Manager and CONTROL-M clocks should be synchronized. If the clocks cannot be synchronized, you can use the Job Runtime Tolerance parameter to compensate for this discrepancy.	
	Percentile Range	The number of standard deviations of job runs. Job refers to jobs in this service. Percentile Range is the default method for specifying Job Run-Time Tolerance. BMC recommends Percentile Range be chosen to determine the tolerance of jobs in the service. **Confidence level** You can determine how unusual your data must be before it can be considered significant by selecting the confidence level. Select one of the following values from the list, where 2 indicates more confidence in the completion time for the jobs and 4 less confidence: ■ 2 –- 95.44% ■ 3 –- 99.73% ■ 4 –- 99.99%
	% of Job Runtime	The percentage of the time (based on the average run time for the job) that the job can be late or early but still be considered on time (up to 999 percent). Default: **10**
	Minutes	Number of minutes that the job can be late or early, but still be considered on time (up to 999 minutes). Default: blank.
	Examples: ■ A job that usually runs for one hour runs for an hour and a half, and the tolerance for the service to which it belongs is set to one hour (60 minutes). This job is not considered late. ■ A job that usually runs for one hour runs for an hour and a half, and the tolerance for the service to which it belongs is set to 15 minutes. This job is considered late.	

Accounting for exceptions and external events

To improve the accuracy of estimated end times for business services, you can specify exceptions for jobs and conditions that depend on external events. You can also account for different work schedules. For example, you might want to use a different schedule for weekends than for weekdays.

For information about managing exceptions for expected runtime statistics, see Chapter 8, “Managing exceptions for expected run time statistics”.

External Events

External events are events that affect job scheduling but are not part of the CONTROL-M regular workflow. Examples follow:

- conditions that an external application adds
- jobs that the operator confirms (confirmation jobs)

Because BMC Batch Impact Manager calculates jobs in set intervals, changes might apply only at the next calculation. When you edit an exception and submit the changes to the BMC Batch Impact Manager server, the next calculation starts as soon as possible, bypassing the scheduled calculations interval.

This section discusses the following topics:

- “Manual Conditions”
- “Confirmation Jobs”
- “Viewing or modifying assumptions and rules for a service”

Manual Conditions

A Manual Condition Event occurs when a service job depends on a condition that does not apply to other jobs and has not been raised previously.

BMC Batch Impact Manager assumes that all manual conditions are raised at the dependent job's average start time. This assumption can be modified by changing the whole system (that is, by changing the relevant System Parameters), or by creating an exception for specific jobs or groups of jobs. You can also choose not to raise conditions at all.

A Manual Condition Exception allows you to define a specific time for raising a condition or a group of conditions.

Statistics are not kept for individual conditions. To decide when to raise a condition, CONTROL-M/EM must utilize the minimum average runtime calculated from the runtimes of each dependent job.

To define conditions

1 Choose **Tools => Batch Impact Manager => Forecast/BIM Rules**.

The Forecast/BIM Rules dialog box is displayed.

2 To add a rule, click and select the type of rule to be created.

For more information, see "Confirmation Rules" on page 124 and "Condition Rules" on page 126.

Confirmation Jobs

A *Confirmation Event* occurs when a confirmation job is part of a service chain. As a result, an unconfirmed job stops the service flow completely, earlier versions of BMC Batch Impact Manager assumed that the confirmation job ran at New Day. However, most job confirmations do not occur at New Day. As a result, BMC Batch Impact Manager's estimated end times for a service end are earlier than expected.

A *Confirmation Exception* enables you to define a time for the job's confirmation, increasing the accuracy of the calculation. Confirmation Exceptions affect the entire calculation. If a job awaiting confirmation is connected to more than one service, any defined exception affects all services depending on it.

For more information, see "Confirmation Rules" on page 124.

Viewing or modifying assumptions and rules for a service

You can use the Business Services window to perform the following tasks for a service:

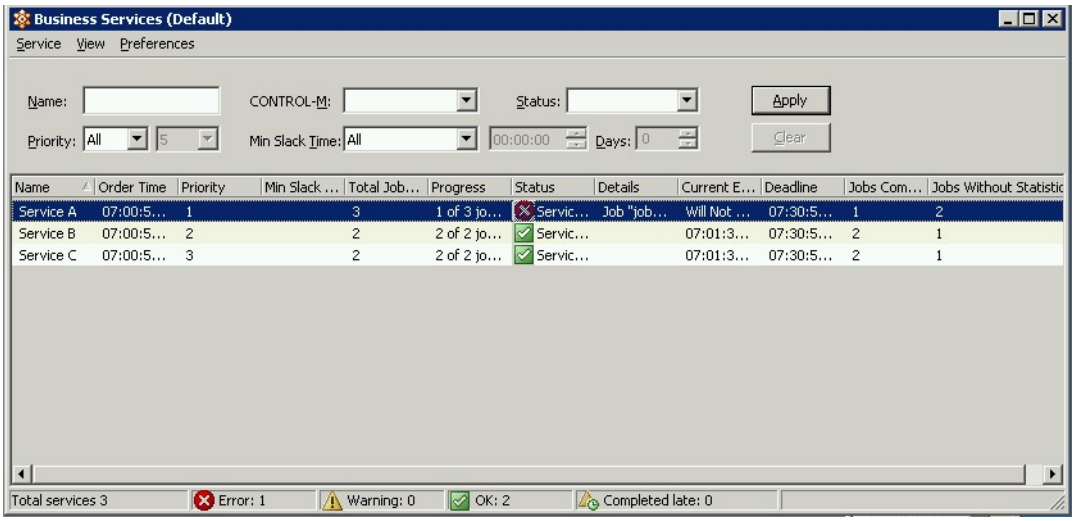
- view or modify assumptions
- create or modify rules

To access the Business Services window using CONTROL-M/EM

1 In CONTROL-M/EM, choose **Tools => Business Impact Manager => Business Services**.

The Business Services window is displayed.

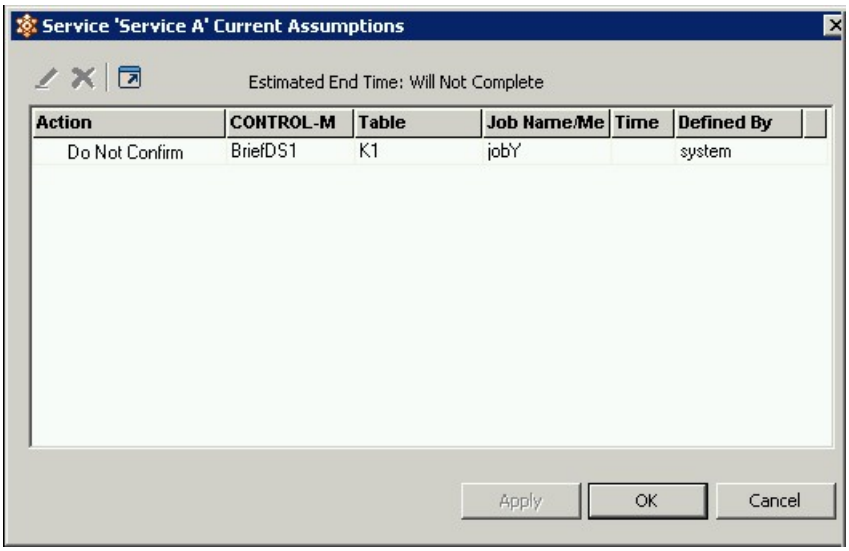
Figure 3 Business Services window


Business Services (Default)
Service View Preferences
Name:
CONTROL-M:
Status:
Apply
Priority: All
Min Slack Time: All
00:00:00
Days: 0
Clear
Name Order Time Priority Min Slack ... Total Job... Progress Status Details Current E... Deadline Jobs Com... Jobs Without Statistic
Service A 07:00:5... 1 3 1 of 3 jo... Servic... Job "job... Will Not ... 07:30:5... 1 2
Service B 07:00:5... 2 2 2 of 2 jo... Servic... 07:01:3... 07:30:5... 2 1
Service C 07:00:5... 3 2 2 of 2 jo... Servic... 07:01:3... 07:30:5... 2 1
Total services 3
Error: 1
Warning: 0
OK: 2
Completed late: 0

2 To view or modify assumptions for a service, right-click the required service in the Business Services window and choose **Service Assumptions**.

The Services <*serviceName*> Current Assumptions dialog box is displayed.

Figure 4 Services <*serviceName*> Current Assumptions dialog box


Service 'Service A' Current Assumptions
Estimated End Time: Will Not Complete
Action CONTROL-M Table Job Name/Me Time Defined By
Do Not Confirm BriefDS1 K1 jobY system
Apply
OK
Cancel

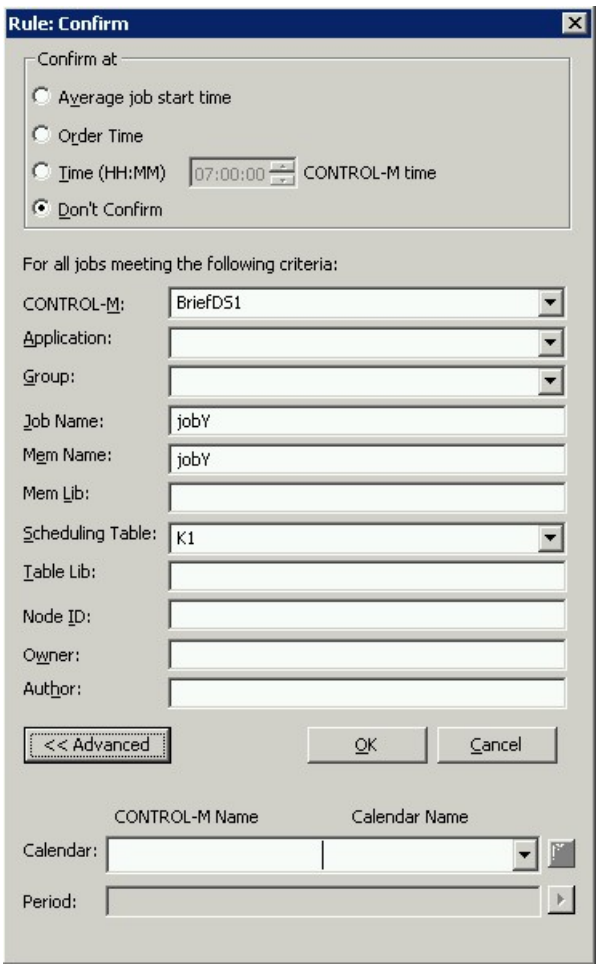
NOTE

If the time frame for the assumption has passed, the assumption is red on the Services <*serviceName*> Current Assumptions dialog box and BMC Batch Impact Manager assumes that now is the exception time.

3 To modify the current assumptions for a service, double-click an assumption, or select it and click .

The Rule: Confirm dialog box is displayed.

Figure 5 Rule: Confirm dialog box



For a description of the fields in this dialog box, see "Confirmation Rules" on page 124.

4 Make the required modifications and click **OK**:

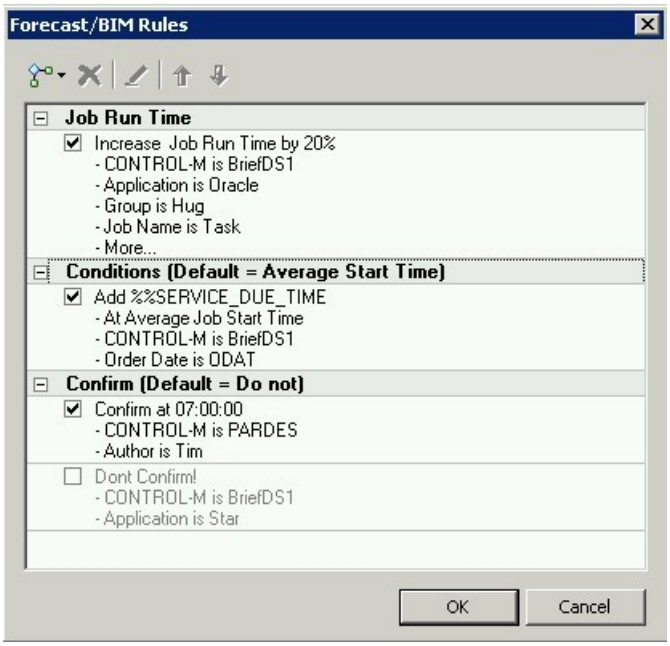
- To create a new rule, or to modify an existing rule, click in the Services <*serviceName*> Current Assumptions dialog box.

-or-

- In CONTROL-M / EM, choose **Tools => Business Impact Manager => Forecast/BIM Rules**.

The Forecast / BIM Rules dialog box is displayed.

Figure 6 Forecast/BIM Rules dialog box

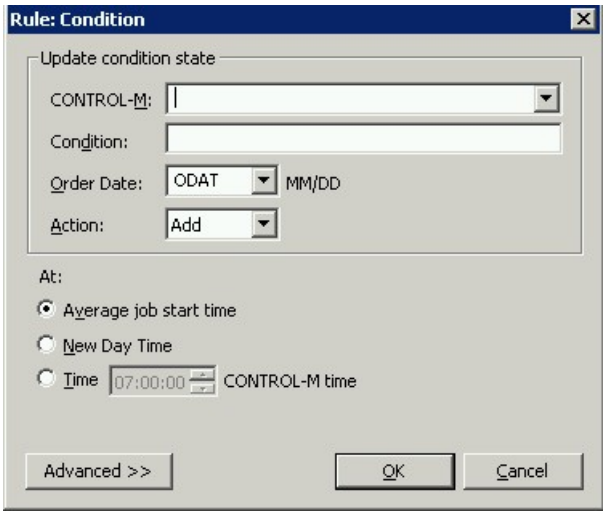


- To create a new rule – in the Forecast / BIM Rules dialog box click . Select the type of rule to be created:
  - Condition Rule
  - Confirmation Rule
- To modify an existing rule – in the Forecast / BIM Rules dialog box double click the rule or select it and click .

The Rule: <*ruleType*> dialog box is displayed according to the type of rule that you selected. For a description of each field in the dialog box, click the appropriate link:

- "Confirmation Rules" on page 124
- "Condition Rules" on page 126

Figure 7 Rule: Condition dialog box



Where to go from here

Continue with Chapter 7, "Monitoring services and jobs," which explains how to monitor BMC Batch Impact Manager services. For information about scheduling a job or service, see the *CONTROL-M User Guide*.

Chapter 7

Monitoring services and jobs

This chapter describes methods for monitoring and managing BMC Batch Impact Manager business services and jobs.

This chapter presents the following topics:

Monitoring services 100
- Using the BMC Batch Impact Manager Web Client 100
- Using CONTROL-M/EM to track jobs 109
- Using CONTROL-M/EM to track business services 110

Receiving notifications 110
- Using the CONTROL-M/EM Alerts window 111
- By e-mail 112
- As SNMP destinations 112
- Using BMC Service Impact Manager 113
- Using the BMC Remedy ITSM - Incident Manager 114

Generating reports 114
- Generating reports using the CONTROL M/EM Reporting Facility 114
- Generating reports using the Web Client or bim_report utility 115

Monitoring services

This section describes various methods for monitoring BMC Batch Impact Manager jobs and services, and for analyzing the impact on your business environment.

Using the BMC Batch Impact Manager Web Client

The BMC Batch Impact Manager Web Client enables you to

- monitor your services, at any time, from any place
- determine the status of each service
- perform initial analysis of the problem and status of the service
- change the time by which the service must complete
- view reports of a service's previous status
- filter the services listed and save the filters for future use

NOTE

Use CONTROL-M/EM to resolve problems with the batch process. You can use the BMC Batch Impact Manager Web Client to change the time by which the service must complete. For basic instructions, see "Using CONTROL-M/EM to track jobs" on page 109. For comprehensive instructions, see the *CONTROL-M User Guide*.

The following topics are described in this section:

- Logging on to the BMC Batch Impact Manager Web Client
- Getting familiar with the BMC Batch Impact Manager Web Client
- Filtering the services displayed in the BMC Batch Impact Manager Web Client
- Extending the deadline for a service

Logging on to the BMC Batch Impact Manager Web Client

1 Use these utilities to ensure that BMC Batch Impact Manager Server is running:

Microsoft Windows

- CONTROL-M Configuration Manager (see *CONTROL-M Administrator Guide*)
- Microsoft Windows Task Manager

UNIX

- **root_menu** (see the *CONTROL-M Administrator Guide*)
- **ps** utility

2 Open your Internet Explorer browser and go to the following URL:

`http:\\`*hostname*`:`*port*`\`*bim_context_name*

Web Application Server parameter	Description
hostname	Name of computer on which the web application server resides.
port	Port to computer on which the web application server resides.
bim_context_ name	The name of the virtual directory where the BMC Batch Impact Manager Web Application resides. (This is defined during installation, as described in "BMC Batch Impact Manager Web Application deployment" on page 55.)

NOTE

The first time you start the BMC Batch Impact Manager Web Client or the first time you click its **Report** button, you may experience a slight delay as it loads. Subsequent attempts will be at normal speed.

3 In the Login dialog box, enter your CONTROL-M/EM user name and password. Select the computer hosting BMC Batch Impact Manager from the list, and click **Login**.

TIP

If BMC Batch Impact Manager Server is installed on several computers, you can choose which computer to log on to. You can also add and remove computers from the list. For more information, see "Managing the list of available host computers available when logging in" on page 101.

After clicking **Login**, the BMC Batch Impact Manager Web Client is displayed.

Managing the list of available host computers available when logging in

The hosts that appear in the list of available hosts is based on the hosts defined in the **bim_host_list.xml** file located in the **etc** subdirectory.

NOTE

All manipulations to the list of available hosts in the BMC Batch Impact Manager Web Client must be done by an administrator. To ensure this, you must fill in the username and password fields before you can perform any action, and authentication is performed.

To add a new host computer to the list of available hosts:

1 Click **Advanced>>** to display additional fields.

2 Enter values for the Host Name and Port (for CORBA) text boxes.

If the BMC Batch Impact Manager Server is registered under a naming service that runs on a computer other than that of the BMC Batch Impact Manager Server, specify: ***namingServiceHost\bimHost***

3 Click **Add Host**.

4 Click **<<Advanced** to hide the Host Name and Port fields.

To modify a host computer in the list of available hosts:

1 Select the host in the Host field.

2 Click **Advanced>>** to display additional fields.

3 Modify the port number in the lower half of the dialog box.

4 Click **Edit Host**.

5 Click **<<Advanced** to hide the Host Name and Port fields.

To delete a host computer from the list of available hosts:

1 Select the host in the Host field.

2 Click **Advanced>>** to display additional fields.

3 Click **Delete Host**.

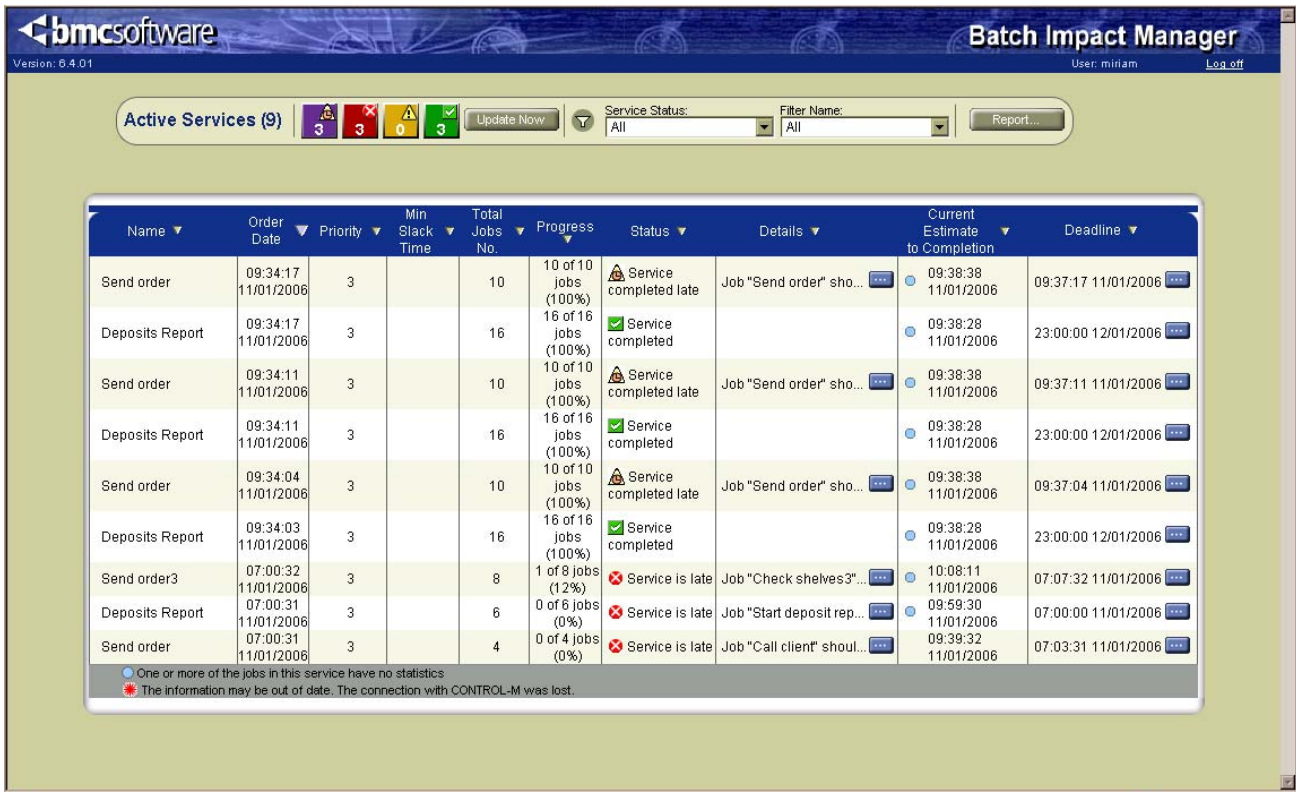
4 When prompted for confirmation, click **OK**.

5 Click **<<Advanced** to hide the Host Name and Port fields.

Getting familiar with the BMC Batch Impact Manager Web Client

After logging on, the BMC Batch Impact Manager Web Client is displayed.

Figure 8 BMC Batch Impact Manager Web Client


bmcsoftware
Batch Impact Manager
Version: 6.4.01
User: miriam
Log off
Active Services (9)
3
3
0
3
Update Now
Service Status:
All
Filter Name:
All
Report...
Name
Order Date
Priority
Min Slack Time
Total Jobs No.
Progress
Status
Details
Current Estimate to Completion
Deadline
Send order 09:34:17 11/01/2006 3 10 10 of 10 jobs (100%) Service completed late Job "Send order" sho... 09:38:38 11/01/2006 09:37:17 11/01/2006
Deposits Report 09:34:17 11/01/2006 3 16 16 of 16 jobs (100%) Service completed 09:38:28 11/01/2006 23:00:00 12/01/2006
Send order 09:34:11 11/01/2006 3 10 10 of 10 jobs (100%) Service completed late Job "Send order" sho... 09:38:38 11/01/2006 09:37:11 11/01/2006
Deposits Report 09:34:11 11/01/2006 3 16 16 of 16 jobs (100%) Service completed 09:38:28 11/01/2006 23:00:00 12/01/2006
Send order 09:34:04 11/01/2006 3 10 10 of 10 jobs (100%) Service completed late Job "Send order" sho... 09:38:38 11/01/2006 09:37:04 11/01/2006
Deposits Report 09:34:03 11/01/2006 3 16 16 of 16 jobs (100%) Service completed 09:38:28 11/01/2006 23:00:00 12/01/2006
Send order3 07:00:32 11/01/2006 3 8 1 of 8 jobs (12%) Service is late Job "Check shelves3"... 10:08:11 11/01/2006 07:07:32 11/01/2006
Deposits Report 07:00:31 11/01/2006 3 6 0 of 6 jobs (0%) Service is late Job "Start deposit rep... 09:59:30 11/01/2006 07:00:00 11/01/2006
Send order 07:00:31 11/01/2006 3 4 0 of 4 jobs (0%) Service is late Job "Call client" shoul... 09:39:32 11/01/2006 07:03:31 11/01/2006
One or more of the jobs in this service have no statistics
The information may be out of date. The connection with CONTROL-M was lost.

The top section of the window

- summarizes the total number of services and the number of failed, OK, and potentially problematic services
- provides buttons for refreshing the display, and for generating reports (described under "Generating reports" on page 114)
- lets you specify filters for limiting the services displayed in the window

The lower section of the window lists services, each service on its own line in table format. The following information and activities are available for each service line.

TIP

You can sort any of the columns (fields) in ascending or descending order by clicking the ▲ and ▼ symbols respectively in the row containing the headings.

Table 11 Fields in the BMC Batch Impact Manager Web Client (part 1 of 2)

Field	Description
✸	Indication CONTROL-M and CONTROL-M/EM are disconnected.
Name	Name of the service.
Order date	Date on which the service was ordered (its ODATE).
Priority	Priority level of the service, assigned when defining the service in the CONTROL-M/Desktop.
Slack Time	The difference in time, in the format **hh:mm**, between the due time of the service and its estimated end time. For example, if the service must end by 10:15 (due time), and its estimated end time is 10:05, its slack time is 10 minutes. This information, together with the service priority level, can help you decide which problems are most urgent.
Total Jobs No.	Total number of jobs in the service.
Progress	The number of jobs completed out of the total number of jobs, and a percentage indicating how many of the jobs have completed.
Status	The status of the service. See Table 12 for a list of statuses.
Details	Additional details about the service, including: ■ Messages provided when a job or service is Not OK (due to both errors and warnings), including: — The reason a job is running longer then expected — The time by which a job should have started running — Remedy ticket number and status (if a ticket was issued) ■ Messages provided when a job or service is running OK, including indications that a job is: — waiting for manual confirmation — held — waiting for conditions or resources To see the entire Details field, do one of the following: ■ Position the curser on the details field. After a few seconds, a “balloon” appears displaying the entire field. ■ Click … to display the details in its own dialog box.

Table 11 Fields in the BMC Batch Impact Manager Web Client (part 2 of 2)

Field	Description
Current Estimate to Completion	The time BMC Batch Impact Manager estimates that the service will complete. This calculation is based on existing CONTROL-M average run time statistics or exceptions. If jobs exist that do not have such information, the symbol is displayed in this column next to the estimated time.
Deadline	Time by which the service must complete to be considered not late. Authorized users can extend this deadline (increasing the time allocated for the service to run) by clicking in this column. For instructions, see "Extending the deadline for a service" on page 108.

Table 12 lists the statuses and processing phases through which a service may pass.

Table 12 Service statuses and processing phases

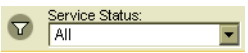
Status	Icon	Description
Service is running		There are no problems in the chain of jobs comprising the service. A service is considered OK even if ■ it has not yet started running ■ one of its jobs fails, provided that another job, with an Or relationship to the failed job, runs successfully.
Service completed		The BMC Batch Impact Manager job completed on time.
Calculating the status		BMC Batch Impact Manager is calculating the expected end time of the service and its status. **Note:** To see the results after the status is calculated, refresh the BMC Batch Impact Manager Web Client.
Waiting for jobs		The service has just been ordered and BMC Batch Impact Manager is retrieving information about the jobs in the service from CONTROL-M.
Service is late		A service will not complete before the time defined in the **Must complete by** field in the BMC Batch Impact Manager job.
Job failure on service path		A job in the service did not end OK.
Service completed late		The service has completed OK, but the end time of the service has exceeded its Due time.
Job ran too long		A job in the service did not complete before its average run time elapsed.
Job ended too quickly		A job in the service finished early, ahead of schedule.

TIP

Because the Job ran too long and Job ended too quickly statuses are warnings, if the next job "makes up for lost time," these warnings are cleared from the display. To make these warnings display for a longer period of time, ensure that the value of the DetectProblemsInterval system parameter is sufficiently low. Set the interval so that it is less than the run time of both the job that caused the warning and the subsequent job.

Filtering the services displayed in the BMC Batch Impact Manager Web Client

Because there is no limit to the number of services you can define, or that may be running, you may want to define filter criteria for limiting the number of services you can view in the BMC Batch Impact Manager Web Client.



To limit the display of services, click the arrow and select one of the following predefined filter criteria:

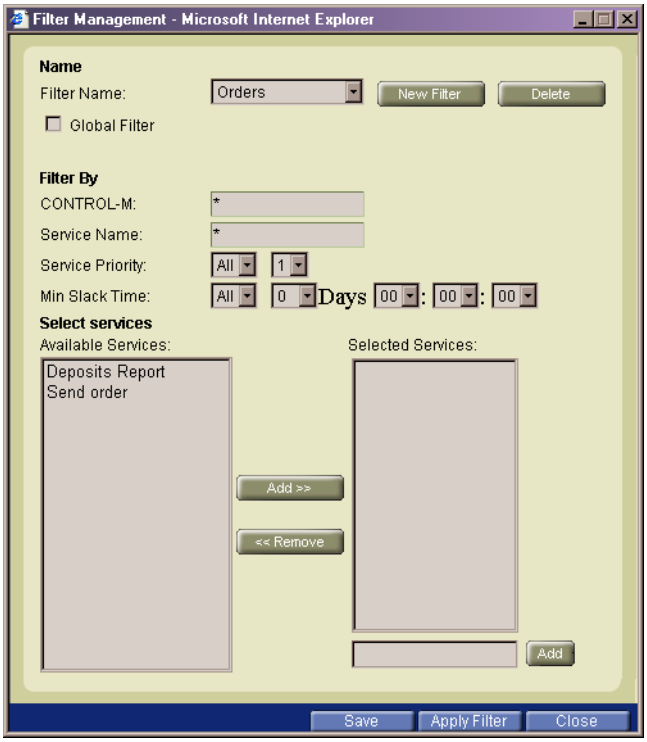
- **All**: All services
- **Errors**: Services with a job that ended Not OK, where the error affects the service
- **OK**: Only services that ended OK.
- **Warnings**: Services with jobs that might cause the service to be delayed
- **Errors & Warnings**: Services with errors and services with warnings

In addition to using filters to limit the display at the current time, you can save filters for future use.

To save filter criteria for future use

1 At the top of the BMC Batch Impact Manager Web Client, select the arrow next to the Filter Name field.

2 Select **Define Filter**.



3 Click **New Filter** to create a new filter.

4 Type a name and click **OK**.

5 For administrators only: If you want this filter to be available globally to other users, check the **Global Filter** check box.

6 Enter the values to be included in the filter using one, or a combination of, the following methods:

- In the Filter By section, you can specify wildcard symbols and limit the display by CONTROL-M name, service name, priority level, or by slack time.
- In the Select Services section, you can select specific services you want included in the display by selecting them in the Available Services area and clicking **Add>>** to move them to the Selected Services area.
- At the bottom right of the dialog box, you can type in a specific service name and click **Add**.

7 Click **Save** to save the filter for future use, or **Apply** to use the filter now.

To display (and optionally modify) a filter preset

1 Open the Filter Management dialog box, as described under "To save filter criteria for future use."

2 Select the name of the dynamic filter in the **Filter Name** field.

3 Modify the criteria as necessary.

4 Click **Save** to save the filter for future use, or **Apply** to use the filter now.

To limit the services displayed using a saved filter

1 At the top of the BMC Batch Impact Manager Web Client, select the arrow next to the Filter Name field.

2 Select the desired filter.

Only the services that match the filter criteria specified in the Filter Name field are displayed.

To delete a saved filter:

1 Open the Filter Management dialog box, as described under "To save filter criteria for future use."

2 Select the name of the dynamic filter in the **Filter Name** field.

3 Click **Delete**.

4 When prompted, click **OK**.

Extending the deadline for a service

Users can extend the deadline for a service in the BMC Batch Impact Manager Web Client, thereby increasing the time allocated for the service to run. The extension occurs immediately, in the active environment.

NOTE

Only users with proper authorization can extend the deadline for the service. Proper authorizations include browse permissions for the properties of a job and update permissions for editing the properties of a job. These permissions are set in the Jobs panel of the User Authorizations dialog box, available from the **Tools => Authorizations** menu option.

1 Click on the row containing the service whose deadline you want to extend.

2 Enter the hour, minutes, and date for the new, extended deadline in the Update Deadline dialog box, and click **OK**.

NOTE

It may take some time before BMC Batch Impact Manager recalculates the status of the services.

Using CONTROL-M/EM to track jobs

The BMC Batch Impact Manager job can be monitored in CONTROL-M/EM, just like any other CONTROL-M job.

- In the CONTROL-M/EM flow diagram, you can track the status of the BMC Batch Impact Manager job (OK, on hold, free) by its color and icon. Additionally, all jobs in a critical batch service contain the icon in their title bar.
- All operations that can be done on a CONTROL-M dummy job can also be done on the BMC Batch Impact Manager dummy job (hold, free, and so on).
- When a BMC Batch Impact Manager job is put on hold, its parameters can be modified.
- You can quickly switch between the job in the flow diagram and the job in the Batch Services view.
- You can filter for jobs associated with BMC Batch Impact Manager services when creating dynamic filters and when finding or selecting jobs.

While a job is active, you can manage its behavior by viewing and then editing its details in CONTROL-M/EM.

1 In CONTROL-M/EM, right-click the required job, and select **Hold**.

2 Double-click the job to display the job editing form.

3 In the job editing form, change parameter values as required.

NOTE

The following symbols are not valid for any field on the BIM panel:

- Single quotation mark (‘)
- Double quotation marks (“)
- Equals (=)
- Less than (<)
- Greater than (>)
- Ampersand (&)
- Backslash (\)

4 Click **OK**. Right-click the job, and select **Free**.

NOTE

For more information about viewing and updating job details, see the *CONTROL-M User Guide*.

Using CONTROL-M/EM to track business services

BMC Batch Impact Manager services can be monitored in the CONTROL-M/EM Business Services window.

To access the Business Services window using CONTROL-M/EM

In CONTROL-M/EM, choose **Tools => Business Impact Manager => Business Services**.

The Business Services window is displayed.

For more information about monitoring BMC Batch Impact Manager services, see the *CONTROL-M User Guide*.

Receiving notifications

NOTE

For detailed instructions on using the BMC Service Impact Manager and its Services View, see the *BMC Impact Explorer User Guide*.

BMC Batch Impact Manager can dispatch notifications to various destinations:

- Using the CONTROL-M/EM Alerts window
- By e-mail
- As SNMP destinations
- Using BMC Service Impact Manager
- Using the BMC Remedy ITSM - Incident Manager

Using the CONTROL-M/EM Alerts window

Alerts generated by BMC Batch Impact Manager appear in the CONTROL-M/EM Alerts window, along with all other CONTROL-M/EM alerts, and can be managed in the same way. However, note the following:

- If an alert is sent from BMC Batch Impact Manager to the CONTROL-M/EM Alerts window, and then the related service is no longer problematic, the alert is automatically changed to **Handled**.

- If more than one job causes a service to be delayed, only one alert is generated for the service.

Specify the Shout Do Action parameter when defining rules for the BMC Batch Impact Manager job. This indicates that alerts should be sent to the Alerts window as a notification. See Table 8 on page 82 for more information about this Do Action parameter.

To access the CONTROL-M/EM Alerts window

1 In CONTROL-M/EM, choose **Tools => Alerts**.

2 From the Origin field in the Alerts window, select **BIM**:

3 Click **Apply**.

Only alerts originating from BMC Batch Impact Manager are listed.

This window is described in depth in the Alerts chapter of the *CONTROL-M User Guide*.

By e-mail

E-mail messages generated by BMC Batch Impact Manager can be sent to any destination using SMTP protocol. When receiving an e-mail

- the name of the sender is the value configured using the BIMEmailSender system parameter
- the recipient, subject, and body of the e-mail message are configured in the Do Mail action of the BMC Batch Impact Manager job for that service

The e-mail message is sent when a defined event occurs. For example, if a job fails that will impact a service, an e-mail message can be sent to notify users of this event. If the status of the problematic job changes to OK, recipients receive an additional e-mail notification indicating the change.

Specify the Do Mail action parameter when defining rules for the BMC Batch Impact Manager job. This indicates that an e-mail message should be sent as a notification. For more information about this Do Action parameter, see Table 8 on page 82.

NOTE

To enable BMC Batch Impact Manager to send e-mail messages, the EmailServer system parameter, which indicates the name of the e-mail server utilized for the alert notifications, must be set after installation. The default vale is mail.

As SNMP destinations

Just as in CONTROL-M/EM, notifications can be sent to any SNMP destination (such as any network management application), using the CONTROL-M/EM Gateway.

Specify the Shout Do Action parameter when defining rules for the BMC Batch Impact Manager job. This indicates that an alert should be sent as a notification. When an alert is sent to the Alerts window, a standard SNMP trap message can optionally be issued to the relevant network management application's host. This message can include the type of origin for the notification, such as **BIM**, for BMC Batch Impact Manager.

For more information, see the SNMP appendix in the *CONTROL-M Administrator Guide*.

Using BMC Service Impact Manager

The Services View in BMC Service Impact Manager enables you to monitor problematic services and their statuses, enabling you to react in a timely manner to any services that are delayed.

The Services View displays information about services that are currently problematic. When BMC Service Impact Manager is monitoring BIM services, the Services View displays information about BIM services. If a BIM service contains more than one problematic job, the status of the BIM service equals the status of the most problematic job.

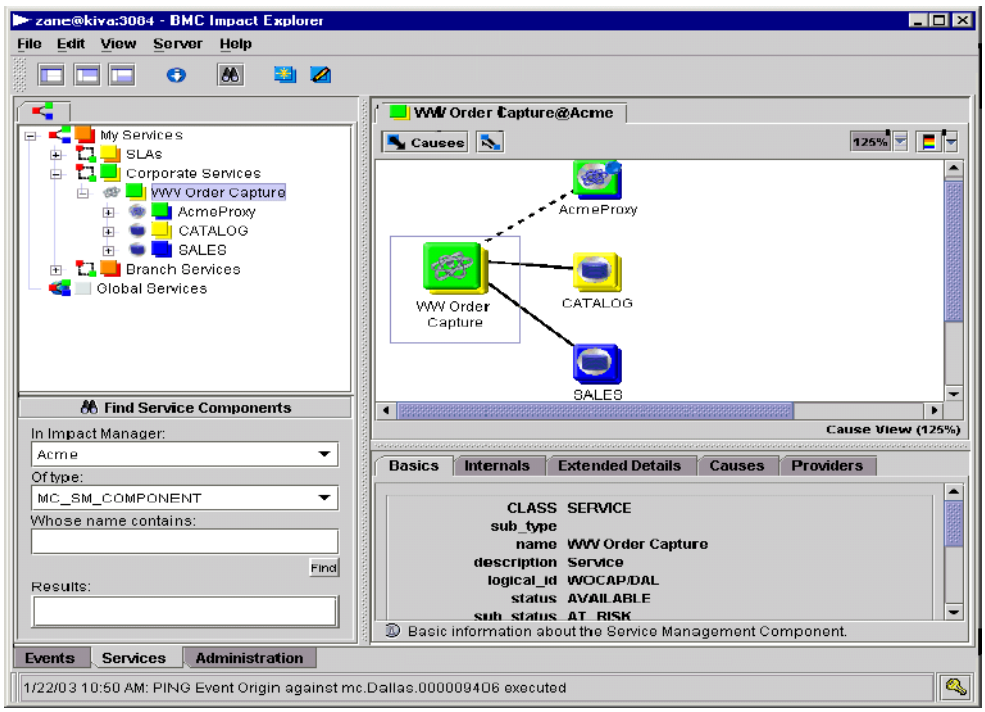
When the status of a service changes, the Services View is updated.

Specify the SIM Do Action parameter when defining rules for the BMC Batch Impact Manager job. This indicates that information about the service will be sent to SIM and will be displayed in the Services View. See "SIM" on page 88 for more information about this Do Action parameter.

A brief glance at the Services view

Figure 9 is a sample of the Services View in the BMC Service Impact Manager.

Figure 9 The Services view in BMC Impact Explorer



Problematic services from BMC Batch Impact Manager are listed in this view, along with other business services.

Using the BMC Remedy ITSM - Incident Manager

The BMC Batch Impact Manager Server can automatically open incidents that can be monitored by the BMC Remedy ITSM - Incident Manager, indicating that a critical service is problematic. When the problem is fixed, the status of the incident is automatically changed.

A connection between the BMC Batch Impact Manager Server and the BMC Remedy ITSM server must first be established. For configuration information, including how to configure a connection, see "Working with BMC Remedy ITSM - Incident Manager" on page 62.

Specify the Remedy Do Action when defining rules for the BMC Batch Impact Manager job. See "Remedy" on page 89 for more information about this Do Action parameter.

Information regarding the incidents created by the service, including the related incident IDs and statuses, appears in the service details, in both the Business Services window and the Web Client.

Generating reports

BMC Batch Impact Manager enables you to generate reports using the following tools:

- CONTROL M/EM Reporting Facility
- BMC Batch Impact Manager Web Client
- The bim_report utility from the command line

Generating reports using the CONTROL M/EM Reporting Facility

The CONTROL M/EM Reporting Facility can be used to generate a variety of reports regarding your services. The Reporting Facility can be used to create two types of reports: historical reports describing the completion statuses of specific services, and current cross-reference information regarding jobs and corresponding services.

For detailed instructions on using the CONTROL-M/EM Reporting Facility, see the *CONTROL-M User Guide*.

The following historical reports are available using the Reporting Facility:

- **SLA Analysis**—presents a histogram displaying the number of services that completed late, on time, and did not complete, within a given time period.
- **History**—lists the final status of each service during a given time period.
- **Details**—lists the final status of specific services during specific dates, and details of their problematic jobs. The severity level of problematic jobs that are displayed depends on the settings of the ReportProblematicJobs system parameter.

  By default the Details report shows all status changes of the service. You can select the **Show final state only** check box during report definition to limit this display to the final status only.

NOTE

The number of days for which data is available for reports is determined by the value of the NumberOfReportDays system parameter (see page 115).

In addition to these historical reports, two additional reports cross-reference jobs and their related services:

- **Service-Jobs**—lists jobs and their related services.
- **Jobs-Service**—lists services and their related jobs.

These reports are only available for jobs that are currently active.

Generating reports using the Web Client or bim_report utility

You can also generate reports for services that have completed execution by

- clicking **Report** in the BMC Batch Impact Manager Web Client
- executing the bim_report utility from the command line (on both UNIX and Microsoft Windows)

These reports track changes to the status of a service, and include the following information:

- the name of the service
- the order date of the service
- the original status of the service
- the revised status of the service
- the date and time that the status of the service changed
- Remedy ticket number and status (if a ticket was issued)

NOTE

The number of days for which data is available for reports is determined by the value of the NumberOfReportDays system parameter (see page 115).

To generate reports from the BMC Batch Impact Manager Web Client:

1 Click **Report** to display the Report window.

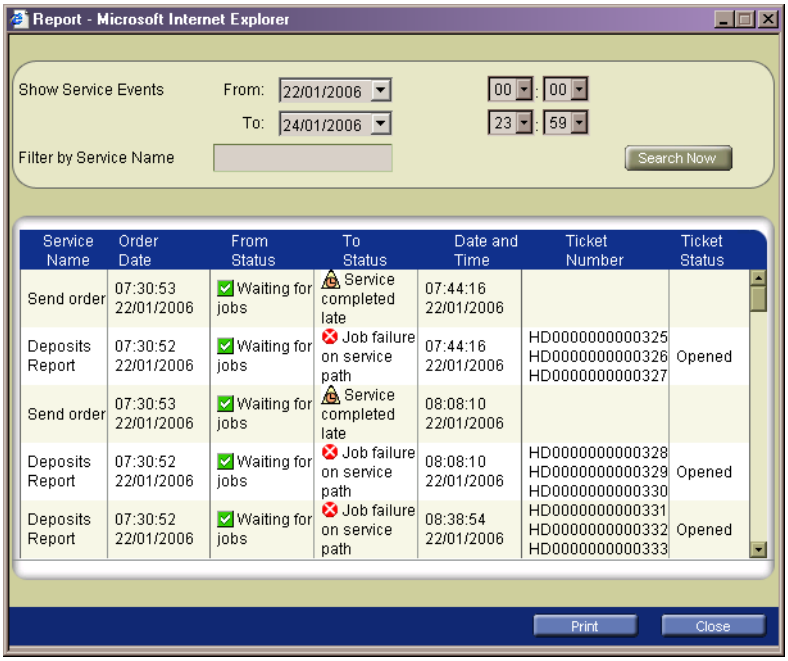
2 In the Report window, enter values for the fields that are described in Table 13.

Table 13 Fields used to generate reports

Field	Description	
Show Service Events	Date and time criteria. Only services in this range are included in the report.	
	From Date	Services running as of this date are included in the report. Dates are specified in **dd/mm/yyyy** or **mm/dd/yyyy** format (depending on the value of the **DateFormat** system parameter).
	From Time	Services running as of this time on the **From Date** are included in the report.
	To Date	Services running until this date are included in the report. Dates are specified in **dd/mm/yyyy** or **mm/dd/yyyy** format (depending on the value of the **DateFormat** system parameter).
	To Time	Services running until this time on the **To Date** are included in the report.
Filter by Service Name	Services that match the name in this field are included in the report.	

3 Click **Print**. A report, similar to the sample in Figure 10 on page 117, is printed.

Figure 10 A Sample Report from the BMC Batch Impact Manager Web Client


Report - Microsoft Internet Explorer
Show Service Events
From: 22/01/2006 00 : 00
To: 24/01/2006 23 : 59
Filter by Service Name
Search Now
Service Name
Order Date
From Status
To Status
Date and Time
Ticket Number
Ticket Status
Send order 07:30:53 22/01/2006 Waiting for jobs Service completed late 07:44:16 22/01/2006
Deposits Report 07:30:52 22/01/2006 Waiting for jobs Job failure on service path 07:44:16 22/01/2006 HD0000000000325 HD0000000000326 HD0000000000327 Opened
Send order 07:30:53 22/01/2006 Waiting for jobs Service completed late 08:08:10 22/01/2006
Deposits Report 07:30:52 22/01/2006 Waiting for jobs Job failure on service path 08:08:10 22/01/2006 HD0000000000328 HD0000000000329 HD0000000000330 Opened
Deposits Report 07:30:52 22/01/2006 Waiting for jobs Job failure on service path 08:38:54 22/01/2006 HD0000000000331 HD0000000000332 HD0000000000333 Opened
Print
Close

To generate reports from the command line (bim_report):

TIP

The bim_report utility can be run both on Microsoft Windows and UNIX operating systems from their respective command lines.

At the command line, enter the following command:

```
bim_report -U username
           -P password
           [-O output file name]
           [-N service name]
           [-F from date]
           [-T to date]
```

Table 14 bim_report parameters from the command line (part 1 of 2)

Parameter	Description
-U *username*	Name of the CONTROL-M/EM user running the report, for security purposes. Mandatory.
-P *password*	Password of the CONTROL-M/EM user running the report, for security purposes. Mandatory.
-O *output file name*	Name and full path of the output file that will contain the generated report. Optional. If not specified, the report is displayed on the screen but is not saved in a file.

Table 14 bim_report parameters from the command line (part 2 of 2)

Parameter	Description
-N *service name*	Name of the service that should be listed in the report. Optional. If not specified, the report runs for all services.
-F *from date*	Services whose order date (Odate) is the same as, or later than, this *from date* value are included in the report. The date and time format is **DD/MM/YYYY_HH:MI:SS** or **MM/DD/YYYY_HH:MI:SS** format (depending on the value of the DateFormat system parameter). Optional. If not specified, services whose order date was on the previous day or later are included in the report.
-T *to date*	Services whose order date (Odate) is the same as, or earlier than, this *to date* value are included in the report. The date and time format is **DD/MM/YYYY_HH:MI:SS** or **MM/DD/YYYY_HH:MI:SS** format (depending on the value of the DateFormat system parameter). Optional. If not specified, services whose order date is the current date and time or earlier are included in the report.

EXAMPLE

This example is for Microsoft Windows:

```
bim_report
   -U emuser
   -P empass
   -O D:\Temp\my_report.txt
   -N CD_service
   -F 26/02/2004_08:34:00
   -T 28/02/2004_23:34:00
```

Chapter 8

Managing exceptions for expected run time statistics

To determine if a critical service will finish on time, BMC Batch Impact Manager must compare the actual run time for each job to its expected run time.

You can set up BMC Batch Impact Manager to determine the expected run time from different sources, using a combination of previously compiled CONTROL-M statistics, system parameters, and exceptions (manual overrides).

This chapter presents the following topics:

Types of expected run times 119
CONTROL-M statistics based on past job executions 120
Predefined statistics exceptions 120
Determining which expected run time to use 120
Defining exceptions to revise run times 122
Defining, editing, and deleting exceptions 122
Handling jobs without CONTROL-M statistics 128

Types of expected run times

The expected run time for a job can be based on:

- CONTROL-M statistics based on past job executions
- Predefined statistics exceptions
- Determining which expected run time to use

CONTROL-M statistics based on past job executions

Every time a job executes, CONTROL-M collects job statistics that it uses to calculate the average run time for that job. This average run time becomes the expected run time for the job. When a job runs, and that job is defined in a business service, BMC Batch Impact Manager compares its actual run time to its average run time from past executions. Based on this comparison, BMC Batch Impact Manager calculates if the business service to which the job belongs will finish on time. For details about refining statistics using periodic statistics, see the *CONTROL-M User Guide*.

NOTE

CONTROL-M/Server includes an option for collecting and analyzing runtime statistics for each defined job. However, the default is not to collect statistics. For more information about job statistics generated by CONTROL-M/Server, see the *CONTROL-M Administrator Guide*.

Predefined statistics exceptions

You can manually revise the expected run time for a job by creating exceptions using the Forecast/BIM Rules window in the CONTROL-M/EM GUI. Separate values can be specified for different periods, using calendars. Statistics entered using the Forecast/BIM Rules window take precedence over statistics from other sources.

This method enables you to compensate for new or seasonal conditions that can affect the run time of a job, making its expected run time irrelevant. It also enables you to enter statistics for jobs that have not yet run and therefore do not have existing statistics. You can modify these statistics at any time.

For instructions on editing the statistics, see "Defining exceptions to revise run times" on page 122.

Determining which expected run time to use

BMC Batch Impact Manager decides which expected run time to use when calculating the lateness of a job according to the following priorities.

1. If exceptions (revised run times) are defined for the job and the corresponding period, BMC Batch Impact Manager evaluates these revised run times as follows:

   - BMC Batch Impact Manager substitutes absolute values (explicitly defined run times) "as is" as the expected run times.

- For exceptions that are defined relatively (based on average run times), BMC Batch Impact Manager uses one of the following average run times:

  — If they exist, CONTROL-M statistics based on prior executions of the job for the corresponding period

  — If no statistics exist, the value in the DefaultAverageTime system parameter

2. If no exceptions (revised run times) are defined for the job and the corresponding period, BMC Batch Impact Manager uses the average run time for the job as calculated by CONTROL-M based on prior executions of the job for the corresponding period, if they exist.

3. If no exceptions (revised run times) are defined for the job and the corresponding period, and the job has never run before (meaning that CONTROL-M never collected statistics for this job), the expected run time for the job is set according to the value in the DefaultAverageTime system parameter.

For information on the DefaultAverageTime system parameter, see "Configuring BMC Batch Impact Manager using system parameters" on page 132.

Defining exceptions to revise run times

Using the Forecast/BIM Rules window in the CONTROL-M/EM GUI, you can define run times for exceptional cases, such as the following:

- jobs that have no run time statistics (for example, jobs that have never run)
- jobs for which you want to override existing statistics (for example, when business conditions have significantly changed)

Because job run times can vary depending on the period or the season, you can define specific periods for each job. For example, a job may require more time on a weekday than on the weekend, or in the summer months than in the winter.

Periodic calendars can also be used to set the dates for which an exception is in place. When using a periodic calendar, unique periodic calendar information is added to the exception. For example, assume that statistics are collected where you have defined two periods in a periodic calendar with one period having all days except for Friday, and the other period having only Fridays, the first set of statistics will be used for calculations for all days except for Fridays, and the second set will only be used for calculations with Fridays.

Defining, editing, and deleting exceptions

Use the following procedure to create rules to define or edit exceptions.

To define or edit an exception

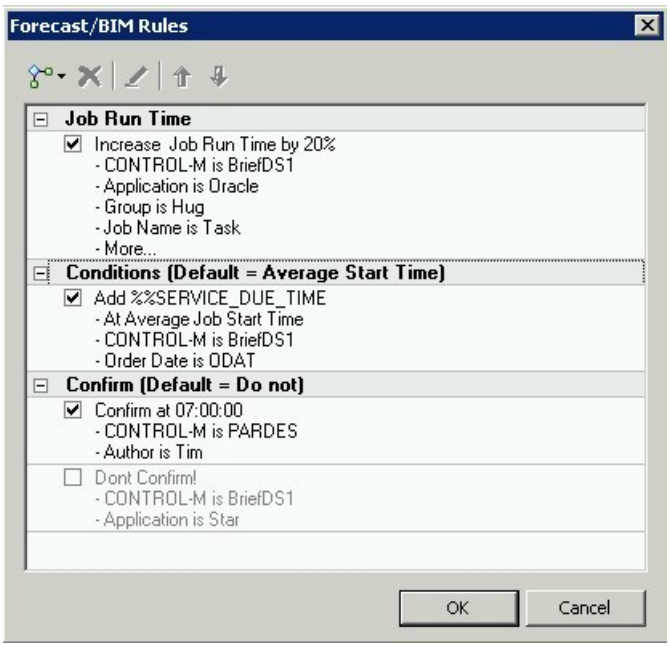
1 In the CONTROL-M/Desktop, choose **Tools => Forecast Configuration** and select the **Forecast/BIM Rules** tab. In the CONTROL-M/EM GUI, choose **Tools => Batch Impact Manager => Forecast/BIM Rules**.

NOTE

When both CONTROL-M/Forecast and BMC Batch Impact Manager servers are available, the Forecast/BIM Rules will be shared by both CONTROL-M/Forecast and BMC Batch Impact Manager. Thus rules defined for CONTROL-M/Forecast will automatically apply to BMC Batch Impact Manager, and rules defined for BMC Batch Impact Manager will automatically apply to CONTROL-M/Forecast.

The Forecast/BIM Rules dialog box is displayed.

Figure 11 Forecast/BIM Rules dialog box



2 In the Forecast / BIM Rules dialog box, select the appropriate option:

- Create a new rule – in the Forecast / BIM Rules dialog box click . Select the type of rule to be created:
  - Condition Rule
  - Confirmation Rule
  - Job Run Time Rule
- Modify an existing rule – in the Forecast / BIM Rules dialog box double click the rule or select it and click .

The Rule: <*ruleType*> dialog box is displayed according to the type of rule that was selected.

Click the appropriate link for a description of each field in the Rule: <*ruleType*> dialog box:

- "Confirmation Rules"
- "Condition Rules"
- "Job Run Time Rules"

3 Enter or modify values in the required fields. Click **Advanced** to display the fields required to specify the calendar details.

4 To display the dialog boxes and tables describing all the fields in these dialog boxes.

5 Click **OK**.

To delete a rule

1 In the CONTROL-M/EM GUI, choose **Tools => Batch Impact Manager => Forecast/BIM Rules**.

The Forecast/BIM Rules dialog box is displayed.

2 Select the required rule and click .

Confirmation Rules

Figure 12 Rule: Confirm dialog box

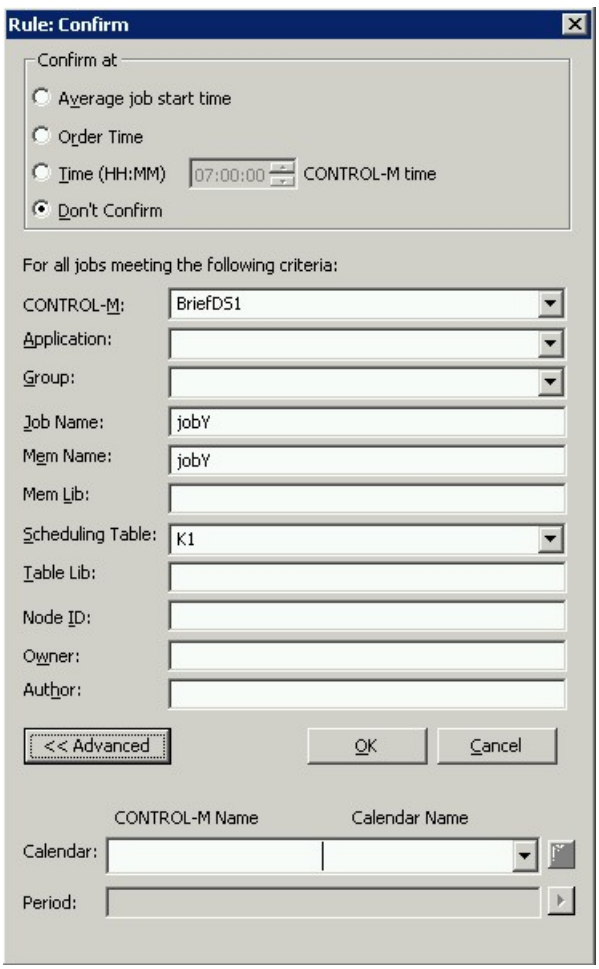


Table 15 Fields in the Rule: Confirm dialog box

Field	Description
Average job start time	Start time based on existing Job Runtime Statistics.
Order Time	The time that the job is ordered to run.
Time	Time of day at which the job starts, specified in hours and minutes using the 24-hour clock format (**HH:MM**). This is based on the time of the CONTROL-M on which the job is run.
Don't Confirm	If a business service depends on this confirmation job to run, the Estimated End Time for this service is displayed as: `Will not Complete`
For all jobs meeting the following criteria: Note: In the table descriptions below, an asterisk (*) indicates that the (asterisk) wildcard character can be used in the field to represent multiple values.	
CONTROL-M	Name of the CONTROL-M whose jobs will be included in this exception definition.*
Application	Name of the application whose jobs will be included in this exception definition.*
Group	Name of the group whose jobs will be included in this exception definition.*
JobName	Name of the job that will be included in this exception definition.*
MemName	Name of the member name (for z/OS) that will be included in this exception definition.*
MemLib	Name of the member library (for z/OS) whose jobs will be included in this exception definition.*
Scheduling Table	Name of the container into which job processing definitions are organized.
Table Lib	Name of the library that contains the job's scheduling table.
Node ID	Name of a host computer to which a job was submitted.
Owner	Identifies the user name for whom the job is executed.
Author	Indicates the CONTROL-M/EM user who defined the job.
Calendar details (click **Advanced** to toggle the display of this section)	
Calendar	Details of the CONTROL-M and calendar to be used to schedule the job.
Period	Name of one or more periods for this exception definition, which can be selected from a list. Special month rules are not supported.

Condition Rules

Figure 13 Rule: Condition dialog box

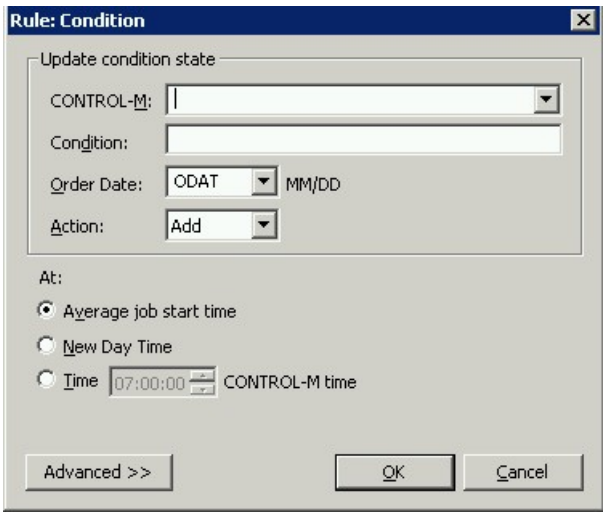


Table 16 Fields in the Rule: Condition dialog box (part 1 of 2)

Field	Description
Update condition state	
CONTROL-M	Name of the CONTROL-M whose jobs will be included in this exception definition. The (asterisk) wildcard character can be used in the field to represent multiple values.
Condition	Requirements to be met before a job can be submitted.
Order Date	Time and day at which the job is ordered. The valid values are: ■ $$$$ ■ **** ■ ODAT (default) ■ STAT
Action	The steps that CONTROL-M takes when the specified condition is met. The valid values are: ■ Add (default) ■ Delete
Average job start time	Start time based on existing Job Runtime Statistics.
New Day Time	The time that the New day procedure is scheduled to run.
Time	Time of day at which the job starts, specified in hours and minutes using the 24-hour clock format (**HH:MM**). This is based on the time of the CONTROL-M on which the job is run.
Calendar details (click **Advanced** to toggle the display of this section)	

Table 16 Fields in the Rule: Condition dialog box (part 2 of 2)

Field	Description
Calendar	Details of the CONTROL-M and calendar to be used to schedule the job.
Period	Name of one or more period for this exception definition, which can be selected from a list. Special month rules are not supported.

Job Run Time Rules

Figure 14 Rule: Run Time dialog box

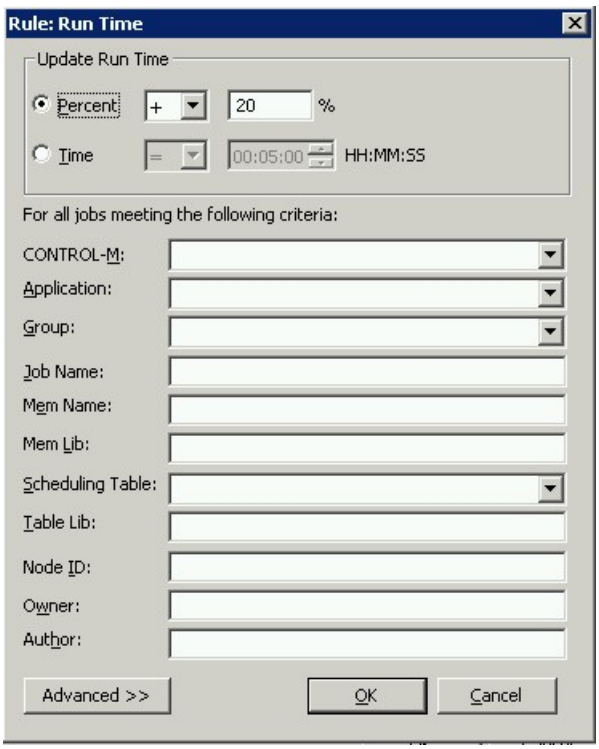


Table 17 Fields in the Rule: Run Time dialog box (part 1 of 2)

Field	Description
Update Run Time	
Percent	Modifies the estimated job runtime by the specified percentage.
Time	Modifies the estimated job runtime by the specified fixed time value. The time used is time of day at which the job starts, specified in hours and minutes using the 24-hour clock format (**HH:MM**). This is based on the time of the CONTROL-M on which the job is run.
For all jobs meeting the following criteria Note: In the table descriptions below, an asterisk (*) indicates that the (asterisk) wildcard character can be used in the field to represent multiple values.	
CONTROL-M	Name of the CONTROL-M whose jobs will be included in this exception definition.*

Table 17 Fields in the Rule: Run Time dialog box (part 2 of 2)

Field	Description
Job Name	Name of the job that will be included in this exception definition.*
Mem Name	Name of the member name (for z/OS) that will be included in this exception definition.*
MemLib	Name of the member library (for z/OS) whose jobs will be included in this exception definition.*
Scheduling Table	Name of the container into which job processing definitions are organized.
Table Lib	Name of the library that contains the job's scheduling table.
Node ID	Name of a host computer to which a job was submitted.
Owner	Identifies the user name for whom the job is executed.
Author	Indicates the CONTROL-M/EM user who defined the job.
Calendar details (click **Advanced** to toggle the display of this section)	
Calendar	Details of the CONTROL-M and calendar to be used to schedule the job.
Period	Name of one or more period for this exception definition, which can be selected from a list. Special month rules are not supported.

Handling jobs without CONTROL-M statistics

When no CONTROL-M statistics exist for a job that is part of a service, BMC Batch Impact Manager

- updates the BMC Batch Impact Manager Web Client to indicate that at least one job in the service chain of jobs does not have CONTROL-M statistics
- uses the value of the DefaultAverageTime system parameter for the expected run time of each job without statistics

Chapter 9

Administrator tasks

This chapter describes administrative tasks that can be performed using various BMC Batch Impact Manager menus and utilities.

This chapter presents the following topics:

Working with CONTROL-M global conditions 129
Fine-tuning performance 129
Managing user authorizations 130
User settings 130
Assigning user authorizations 131
Generating diagnostics 131
Configuring BMC Batch Impact Manager using system parameters 132

Working with CONTROL-M global conditions

If global condition prefixes are modified, added, or deleted in CONTROL-M or CONTROL-EM, you must restart the BMC Batch Impact Manager Server.

If you do not restart the BMC Batch Impact Manager Server, changes to global condition prefixes will not be noticed in BMC Batch Impact Manager.

Fine-tuning performance

Periodically BIM calculates the BIM Services status using a multi-threaded process. By default, two threads are used, but the performance of the BIM server can be improved by changing the number of threads, using the following system parameters:

- NewJobsInterval – Interval at which BMC Batch Impact Manager will check to see if new jobs have been added to the critical service, in the format HH:MM:SS (Default: 1 minute).
- DetectProblemsInterval – interval between calculations (Default: 1 minute). Increasing the value will reduce the total BIM CPU consumption, but will effect BIM responsiveness to updates.
- MaxNumDetectThreads – maximum number of threads used by BIM for the calculation process (Default: 2). The maximum value should not exceed the number of CPUs in the BIM server computer.

NOTE

The recommended value for MaxNumDetectThreads is the number of CPUs in the BIM Server computer, divided by 2. For example, if the BIM server computer has 4 CPUs then use 2 threads for BIM.

For more information, see "Configuring BMC Batch Impact Manager using system parameters" on page 132.

Managing user authorizations

User settings

By default, in order to view a BIM business service, a user must be authorized to view the jobs in the service. The following system parameter allows all users, even if they do not have authorization to access the individual jobs in the service, to view, but not to change, business services:

- AuthorizationTurnOff - If the parameter is set to 1, all users can view all business services. (Default: 0 - only users with authorization can view business services)

By default, only administrators are eligible to view and generate reports from the BIM Web user interface. If the following system parameter is set to 1, all users can view and generate the business service reports from the Web user interface:

- AllowReportViewing - allows service report viewing from web for users that are not administrators. (Default: 0 - only administrators can view reports)

Assigning user authorizations

Access to the BMC Batch Impact Manager reports can be controlled by assigning appropriate privileges to users and groups. For further details, see the *CONTROL-M Administrator Guide*.

To assign user authorizations

1 Choose **Tools => Authorizations**.

2 Select the **Privileges** tab.

3 Under the **Monitoring and Administration Tools** section, select one of the available values for the access level (see Table 18) next to the **BIM** category.

Table 18 Access level for periodic statistics definitions

Access level	Description
Full	Full access to BMC Batch Impact Manager reports.
None	No access to BMC Batch Impact Manager reports.
Default	Authorizations for this user are the same as those of the group (see Table 19) that the user belongs to.

Table 19 Default access level for various groups

Group	Access level
AdminGroup	Full
BrowseGroup	Browse
UpdateGroup	Full

Generating diagnostics

The CONTROL-M/EM DIAG diagnostics facility collects information from specified CONTROL-M/EM and BMC Batch Impact Manager components for troubleshooting analysis. This information is collected in a log file, whose contents can be viewed.

The log file is located in the CONTROL-M/EM log directory:

- Microsoft Windows: ***installationDirectory*\log**
- UNIX: ***installationDirectory*/log**

NOTE

Use the DIAG diagnostics facility only when you are instructed to do so by a representative of the BMC Software Customer Support staff. Data collected by the DIAG facility should be analyzed by support staff personnel. A Support Staff employee may request that you run this facility and send the output to BMC Software for analysis.

To generate diagnostics, and to send simple requests to networked BMC Batch Impact Manager components from within CONTROL-M/EM, run the ctl command line utility. This utility is described in the *CONTROL-M Utility Guide*.

Configuring BMC Batch Impact Manager using system parameters

System variables influence the behavior of BMC Batch Impact Manager components and features. Table 20 describes the function of each BMC Batch Impact Manager-related system parameter and lists its default, if one exists.

BMC Batch Impact Manager administrators can change the value of most of these system parameters. If, however, a system parameter is to be modified only upon instruction of Customer Support, this is noted in the description of that system parameter.

System parameters are modified using the System Parameters window of the CONTROL-M Configuration Manager. To learn how to modify a system parameter, see the working with system parameters topic in the *CONTROL-M Administrator Guide*.

NOTE

After modifying any of these system parameters, you must stop and restart the BMC Batch Impact Manager Server. For instructions, see "Working with CONTROL-M global conditions" on page 129.

Table 20 BMC Batch Impact Manager-related system parameters (part 1 of 3)

Parameter	Description	
AddAllOrphanConditions	Manual conditions are conditions that are specified as in conditions for jobs but will not exist at the time BMC Batch Impact Manager estimates the completion time of the services and jobs. This may be because: ■ The job relies on a condition from a previous day. ■ The job relies on a condition that has to be manually added or removed. This system parameter determines if, by default, BMC Batch Impact Manager should assume orphan conditions exist when estimating completion times. Default: **1**	
	0	Orphan conditions are not assumed to exist.
	1	Orphan conditions are assumed to exist at newday.
	2	Orphan conditions are added at the average start time of the first job waiting for the condition.
AlertConsolidationMode	Determines whether the BMC Batch Impact Manager consolidates email alerts, BMC Remedy ITSM incidents, and shout messages. Default: **1**	
	0	Disables consolidation.
	1	Alerts are consolidated in one line with some exceptions regarding alerts recorded in separated lines and or with added spaces.
	2	Alerts are consolidated with a space between the message text for each service.
AllowReportViewing	Allows service report viewing from web for users that are not administrators.	
AuthorizationTurnOff	Allows all users to view the list of business services without authorization checking.	
BackupGUIServers	GUI Servers to use in case there is a problem with the primary GUI Server (as indicated in the CONTROL-M Configuration Manager). The value of this parameter can be one GUI Server or list of GUI Servers separated by commas (**,**).	
BIMUserName	The user name that BMC Batch Impact Manager uses when connecting to CONTROL-M/EM. Default: **bimuser** **Note:** Before changing this value, ensure that the new user name value already exists in CONTROL-M/EM. (If it does not exist, create it before changing the value.) The BMC Batch Impact Manager user name is a hidden user, so if a new user name is indicated here it will also become hidden.	
BMCImpactCellID	The name of the BMC Service Impact Manager cell ID to which BMC Impact Explorer connects, as referenced in the **mcell.dir** file. When using SIM update the SIMCell entry in the **mcell.dir** file. Default: **SIMCELL**	

Table 20 BMC Batch Impact Manager-related system parameters (part 2 of 3)

Parameter	Description	
ConditionDaysToLoad	Defines the number of days of active conditions BMC Batch Impact Manager loads for service calculations. Default: **7** days	
ConnectToGsrRetryDelay	The delay, in seconds, BMC Batch Impact Manager waits before reconnecting to the CONTROL-M/EM GUI Server, if the connection has failed. Default: **30**	
DateFormat	Format in which dates are displayed in the BMC Batch Impact Manager Web Client or by the bim_report utility. Valid values are **DD/MM** and **MM/DD**. Default: **DD/MM**	
DefaultAverageTime	Average run time for jobs with no statistics. In the format **HH:MM**. This value is often used if no statistics are available. Default: **00:05**.	
DetectProblemsInterval	Interval at which BMC Batch Impact Manager checks for problems in the service, in the format **HH:MM:SS**. Default: **00:01:00**.	
EmailSender	E-mail address from which alerts are sent. Default: **bim@bmc.com**	
EmailServer	Name of the e-mail server for alert notification. **Note:** This value must be set after installation. Default: **mail**	
ExecuteConfirmedJobs	Determines if, by default, BMC Batch Impact Manager should assume all jobs are confirmed. Default: **0**	
	0	All jobs are not confirmed.
	1	All jobs are confirmed at new day time.
	2	All jobs are confirmed at average start time.
FailoverMaxRetry	Maximum number of times the BMC Batch Impact Manager Server should reconnect to the CONTROL-M/EM GUI Server, if this connection repeatedly fails. This parameter is reset by the FailoverMinUptime parameter. Default: **10**.	
FailoverMinUptime	The amount of time that the BMC Batch Impact Manager Server must be connected to the CONTROL M/EM GUI Server, before the counter used by the FailoverMaxRetry parameter is reset to zero. For example, if this value is 30 minutes and the connection has been maintained for more than 30 minutes, the counter is reset. Default: **30 minutes**.	
JobNameMode	The field used to identify a job in CONTROL-M. BMC Batch Impact Manager uses this parameter when processing the PROBLEMATIC-JOBS auto edit variable. Default: **JOBNAME/MEMNAME**	
	JOBNAME/ MEMNAME	Depending on your platform, BMC Batch Impact Manager searches according to the name of the job or the member.
	JOBNAME	BMC Batch Impact Manager searches according to the name of the job.
	MEMNAME	BMC Batch Impact Manager searches according to the name of the member.
MaxNumDetectThreads	Maximum number of threads for recalculating the status of the service. Valid values: Any number between **1** and **1000**. Default: **2**.	

Table 20 BMC Batch Impact Manager-related system parameters (part 3 of 3)

Parameter	Description	
MaxSimulationDays	Number of days to simulate the running of the services to calculate estimated end times. Each additional day takes more CPU time during the calculation process. Default: **2**	
NewJobsInterval	Interval at which BMC Batch Impact Manager will check to see if new jobs have been added to the critical service, in the format **HH:MM:SS**. Default: **00:01:00**.	
NumberOfReportDays	Number of days for which report data is saved. Default: **90**	
SimulatorEngineStep	Interval, in seconds, the simulation advances its calculation of the estimated end time. Default: **10** seconds	
	1	Improves accuracy
	10	Default step
	60	Improves performance
UseDoCondition	If BMC Batch Impact Manager should recognize conditions created by Do condition statements when determining which jobs are dependent in a critical service. Default: **1**	
	1	Conditions created by Do condition statements are recognized.
	0	Conditions created by Do condition statements are not recognized.
WebRefreshRate	Determines the rate at which the BMC Batch Impact Manager Web Client is refreshed. Valid format: **HH:MM:SS**. Default: **00:01:00** **Note**: You must log out and in again to the BMC Batch Impact Manager Web Client for the new value to take effect.	

Part 3

BMC CONTROL-M/Forecast

This part presents the following topics:

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Introduction 139

Chapter 11
Installation 143

Chapter 12
Planning production with BMC CONTROL-M / Forecast. 149

Chapter 13
Fine tuning 165

Chapter 14
Administration tasks. 167

Chapter 10

Introduction

This chapter presents the following topics:

Product overview 139
BMC CONTROL-M/Forecast functionality in CONTROL-M/EM 140

Product overview

CONTROL-M/Forecast adds forecasting capabilities to the CONTROL-M suite, letting you estimate your scheduling environment behavior with respect to specific dates in the future. Both graphic and tabular representations of the forecast provide the future dates on which a given job or a scheduling table is predicted to be submitted. In addition, CONTROL-M/Forecast generates an estimate of the full production flow for a given future date, as an enterprise-wide view.

Additional capabilities and tools provided with CONTROL-M/Forecast include

- Schedule forecast from the job editing form, group editing form and Scheduling Table Manager in CONTROL-M/Desktop

  The graphical display of the dates on which scheduling definitions are predicted to be submitted can be used as a tool for validating new and existing scheduling definitions. Forecasts are available for jobs, scheduling groups, and scheduling tags.

- Identify late critical batch services in the forecast, when used with BMC Batch Impact Manager

- Use What-If scenarios to forecast the effects of potential changes to the scheduling environment

- Additional reports in CONTROL-M/EM

Historical reports can help you identify trends of your production environments. You can, for example, learn why your enterprise has missed SLAs. These reports can help you identify and correct main bottlenecks before there is a negative impact on production.

BMC CONTROL-M / Forecast is an add-on to a pre-installed CONTROL-M / Enterprise Manager implementation. The product is a set of options for the CONTROL-M / EM GUI, maintaining the same look and feel.

BMC CONTROL-M / Forecast estimates rely on historical data, fine-tuned by the user.

BMC CONTROL-M / Forecast bases its projections on the data center's new day procedures and user dailies. BMC CONTROL-M / Forecast analyzes scheduling tables, user daily jobs, calendars, job dependencies (in and out conditions), time execution windows, CONTROL-M time zone settings, resources, and priorities in the CONTROL-M / EM database and, based on existing statistics, estimates how jobs will run on specific days.

You can use the util utility to import and export history and forecast information. For details, see the description of the utility in the *CONTROL-M Utility Guide*.

BMC CONTROL-M/Forecast functionality in CONTROL-M/EM

All BMC CONTROL-M / Forecast functionality is available as an add-on product to CONTROL-M / EM. Additional options, buttons, dialog boxes, and menu commands are displayed when BMC CONTROL-M / Forecast is installed. Table 21 lists these new items and their locations.

Table 21 BMC CONTROL-M/Forecast options in CONTROL-M/EM (part 1 of 2)

Forecast item	Location
Schedule Plan for Job / Group / Tag window	Available in CONTROL-M / Desktop by selecting one of the following buttons: ■ **Forecast** button on the Scheduling panel of the Job Editing form ■ **Forecast Tag** button on the Scheduling Tags panel of the Group Editing form ■ **Forecast Group** button on the Scheduling Tags panel of the Group Editing form
Scheduling Table Future Plan window	The window is accessed by clicking the **Forecast** button on the Scheduling Table Manager.

Table 21 BMC CONTROL-M/Forecast options in CONTROL-M/EM (part 2 of 2)

Forecast item	Location
Forecast menu command	Listed in the right-click menu for jobs, groups, applications, data centers and tables in the flow diagram of CONTROL-M/Desktop, and also from the tree view if flow diagram is displayed according to the CONTROL-M/Scheduling Table/Job hierarchy.
Forecast Configuration window	The window is accessed by choosing **Tools => Forecast Configuration**.
Load Forecast dialog box	The dialog box is accessed by choosing **File => Load Forecast**.
Business Services window	The dialog box is accessed by choosing **Tools => Batch Impact Manager => Business Services.**
Forecast Summary	The Forecast Summary is accessed by choosing **View => Dockable Windows => Forecast Summary**.
Gantt view	The Gantt chart view is accessed by choosing **View => Gantt**.
What-If events	The dialog box is accessed by choosing **File => New => What-If**.
What-If Scenario window	The window is accessed by choosing **File => Open => Scenario**.
Filter dialog box	The dialog box is accessed by choosing **Tools => Filter**.
Forecast options	The dialog box is accessed by selecting the User Daily definition tab after choosing **Forecast** from the **Tools => Options** menu.
Forecast analysis reports	CONTROL-M/EM Reporting facility

Chapter 11

Installation

This chapter presents the following topics:

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Checking requirements 144
Installing on UNIX 144
Installing on Microsoft Windows 145
Starting the BMC CONTROL-M/Forecast Server 147
Uninstalling BMC CONTROL-M/Forecast 147
Uninstall on UNIX 147
Uninstall on Microsoft Windows 148

Installing BMC CONTROL-M/Forecast

This section describes how BMC CONTROL-M/Forecast is installed on computers on which CONTROL-M/EM Server components reside. You are not required to install BMC CONTROL-M/Forecast on CONTROL-M/EM clients.

The installation wizard installs BMC CONTROL-M/Forecast in the CONTROL-M/EM home directory.

First refer to the "Checking requirements" section and then refer to one of the following sections for instructions that are appropriate for your operating system:

- Installing on UNIX
- Installing on Microsoft Windows

Checking requirements

The checklist in Table 22 summarizes the preparations for installing BMC CONTROL-M/Forecast.

Table 22 Installation preparation checklist

Consideration or requirement	Enter information here, or check when done
Ensure that a full installation of CONTROL-M/EM version 6.4.01 or higher is installed on the target computers.	
Increase the size of the CONTROL-M/EM database 10% for every 30 days of historical data that you intend to retain. (This can also be performed at a later time.)	

Installing on UNIX

1 Ensure that the database server that contains the CONTROL-M/EM database is up and running.

2 Mount the installation CD.

3 Log on as a CONTROL-M/EM user using the account where a full installation of CONTROL-M/EM version 6.4.01 is installed.

4 Ensure that there is a connection to the CONTROL-M/EM database.

5 Type the following command:

```
cdDrive/Unix/setup.sh
```

A license agreement is displayed.

6 Read the agreement, scrolling with the **Enter** and **spacebar** keys as necessary.

7 After reading the entire agreement, type **y** to accept the agreement.

8 Enter values for the CONTROL-M/EM database owner and password (menu options 1 and 2).

9 Type **I** to start the installation.

10 When the installation finishes, press **Enter**.

Installing on Microsoft Windows

BMC CONTROL-M/Forecast Server can installed on Microsoft Windows either using an interactive procedure or a batch file (silent installation) as described in the following sections.

Interactive installation

1 Ensure that the database server that contains the CONTROL-M/EM database is up and running.

2 Exit all open instances of CONTROL-M/EM GUI and CONTROL-M/Desktop.

3 Log on to a CONTROL-M/EM computer where a full installation of CONTROL-M/EM version 6.4.01 is installed.

4 Ensure that there is a connection to the CONTROL-M/EM database.

5 Insert the installation DVD.

6 Start the installation wizard by running the **Setup.exe** file on the installation DVD.

7 Follow the instructions in each dialog box and click **Next**.

8 When the installation finishes, click **Finish**.

Silent installation

Silent installation is used to install BMC CONTROL-M/Forecast Server from a batch file. Note that it is not supported for Windows cluster environments.

Two stages are involved:

1. **Preparing the batch file**

   This is accomplished by running a silent installation preparatory procedure from the installation DVD. The preparatory procedure behaves like the interactive installation procedure and prompts you to enter the same information. However no installation is performed. Instead, the information you enter is stored in a batch file.

2. **Running the prepared batch file**

   When the prepared batch file is run, BMC CONTROL-M/Forecast Server is installed using the parameters you specified in the previous step. You can reuse this batch file to silently install BMC CONTROL-M/Forecast Server on other computers.

To prepare the silent installation batch file

1 If your database server is Oracle, MSSQL, or Sybase, ensure that you follow the instructions described in the *CONTROL-M Installation Guide*.

2 If the installation DVD will be accessed through a network, you must first map the DVD drive and assign a drive letter.

3 Insert the installation DVD into the mapped drive, navigate to the installation folder, and run the following command:

<*dvdPath*>\prep_silent.bat

WARNING

If the security settings at your site do not allow the "ping" command to be used, the **"%Source_dir%setup.bat"...** line in the **prep_silent.bat** file must be modified as follows:

"%Source_dir%setup.bat"/s /v"BMC_SILENT_INSTALL=\"Y\" BMC_SKIP_PING=\"Y"<SPACE>/l*v\"%InstallLogFile%\""

It is necessary to copy the **prep_silent.bat** file to a local drive to facilitate this change. After making the change, run the modified **prep_silent.bat** file from the local drive.

4 After selecting the type of installation required and entering the necessary parameters values at the prompts, select **Save & Exit** to save the parameters. The parameters are saved to: **%TEMP%\BMC_FORECAST_silent.bat**.

To install silently

1 Log on to the target computer using an ID with Administrator privileges.

2 Run the following command from the installation DVD to install **.Net Framework 2.0.**

dotnetfx.exe /q:a /c:"install /l /q"

3 If the **BMC_FORECAST_silent.bat** file will be accessed through a network, you must first map the DVD drive and assign a drive letter.

4 Open a command prompt window, navigate to the path where the **BMC_FORECAST_silent.bat** file now resides, and run the silent installation by issuing the following command:

<*path*>\BMC_FORECAST_silent.bat

Starting the BMC CONTROL-M/Forecast Server

During installation, if a CONTROL-M/EM GUI server is already defined, the installation process defines and starts a BMC CONTROL-M/Forecast server. If for some reason the BMC CONTROL-M/Forecast server is not running, use the following procedure to start it:

To start the BMC CONTROL-M/Forecast Server

1 Choose **Programs => CONTROL-M/Enterprise Manager <*version*> =><*instance name*> => CONTROL-M Configuration Manager** from the Microsoft Windows Start menu.

2 Start the BMC CONTROL-M/Forecast Server using the instructions for starting components described in the *CONTROL-M Administrator Guide*.

Uninstalling BMC CONTROL-M/Forecast

To uninstall, perform the steps relevant for your operating system:

- Uninstall on UNIX
- Uninstall on Microsoft Windows

Uninstall on UNIX

NOTE

Before beginning the uninstall procedure, ensure that the BMC CONTROL-M/Forecast Server process has been shut down.

1 Log on to the account where BMC CONTROL-M/Forecast is installed.

2 Run the following command to uninstall BMC CONTROL-M/Forecast:

```
$HOME/BMCINSTALL/uninstall/forecast_uninstall.sh
```

3 Type **Y**, and press **Enter**. The following message is displayed:

```
Uninstall of CONTROL-M/Forecast completed
```

Uninstall on Microsoft Windows

NOTE

Before beginning the uninstall procedure, ensure that the BMC CONTROL-M / Forecast Server has been stopped.

The database must be running for the uninstall procedure to work properly.

1 From the Start menu, choose **Settings => Control Panel**, and double-click **Add/Remove Programs**.

2 Select **BMC CONTROL-M/Forecast** 6.4.01 and click **Add/Remove**.

Chapter 12

Planning production with BMC CONTROL-M/Forecast

This chapter presents the following topics:

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Forecasting the scheduling environment 151
Ensure that the Forecast server is up 151
Load the forecast environment and generate the forecast. 151
Examine the forecast summary 152
Examine the business service forecast 153
Examine the effects of potential changes (What-If scenarios). 154
Filter the forecast display 158
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Forecasting schedules of individual jobs, scheduling groups, and scheduling tags

This feature of CONTROL-M/Forecast displays a graphic representation of the scheduling criteria that you specified for a job, a group, or a scheduling tag. It describes the following tasks:

- To view a schedule for a single job graphically
- To view scheduling criteria graphically for multiple nodes
- To view scheduling criteria for jobs in a scheduling table graphically

To view a schedule for a single job graphically

1 In CONTROL-M/Desktop, open the Scheduling panel in the job editing form, or the Scheduling Tags panel in the group editing form.

If your scheduling criteria include a calendar, CONTROL-M/Desktop connects to the GUI Server.

2 After specifying the scheduling criteria, click one of the following:

- **Forecast** (in the job editing form)
- **Tag Forecast** (in the group editing form)
- **Group Forecast** (in the group editing form)

The Schedule Forecast dialog box is displayed. Days on which the job, or group of jobs, is scheduled to run are displayed with a blue background.

To view scheduling criteria graphically for multiple nodes

1 Select the nodes in a flow diagram in CONTROL-M/Desktop.

2 Right-click one of the nodes and choose **Forecast** from the pop-up menu.

The Schedule Forecast dialog box is displayed. Days on which the job, or group of jobs, is scheduled to run are displayed with a blue background.

3 To export the scheduling criteria, do the following:

A Click **Export**, which displays the Choose Export Type dialog box.

B Specify whether you will export by a specific year or date, and click **OK**.

C Browse to the desired directory and click **OK**, which exports the forecast to text (.txt) file.

Use any text editor to open the file.

To view scheduling criteria for jobs in a scheduling table graphically

1 In CONTROL-M/Desktop select **Tools => Scheduling Table Manager**, which displays the Scheduling Manager window.

2 Select the scheduling table.

3 Click **Forecast**, which displays the Schedule Forecast dialog box. Days on which the jobs in the scheduling table are scheduled to run are displayed with a blue background.

Forecasting the scheduling environment

To generate and analyze forecasts of the scheduling environment, you generally perform the following tasks:

- Ensure that the Forecast server is up
- Load the forecast environment and generate the forecast
- Adjust the forecast display
- Examine the forecast summary
- Examine the business service forecast
- Examine the effects of potential changes (What-If scenarios)
- Filter the forecast display
- Adjust the forecast

Ensure that the Forecast server is up

To see if the Forecast Server is up, check its status in the CONTROL-M Configuration Manager. If it is not up, it must be brought up. This requires administrative privileges.

NOTE

In an environment where there are multiple CONTROL-M/EM GUI servers, the administrator must define a separate BMC CONTROL-M/Forecast server for each CONTROL-M/EM GUI server.

For details, see the *CONTROL-M Administrator Guide*.

Load the forecast environment and generate the forecast

When you load the forecast environment, a forecast is displayed.

To load the forecast environment and generate a forecast

1 Choose **File => Load Forecast**, which displays the Load Forecast dialog box.

2 Select the date for which the forecast should be generated.

3 You can select a predefined What-If scenario to be loaded together with the forecast. For details about What-If scenarios, see "Managing What-If events with scenarios" on page 156.

4 You can select additional filter criteria that limit the nodes displayed in the forecast.

TIP

To display additional options, click **Advanced**. Using these additional options you can

- determine the baseline for how BMC CONTROL-M / Forecast should generate the forecast (that is, if it should be built according to an average, best case, or worst case scenario).
- shorten the amount of time for generating the forecast by selecting the Ignore Global Conditions check-box (meaning, the forecast will be based on global conditions existing on the CONTROL-Ms whose prefixes are defined in the CONTROL-M field—all other global conditions are ignored).

5 Click **Load Forecast** to generate the forecast and display it as a new flow diagram.

TIP

When job scheduling definitions are changed the user may want to obtain an updated forecast. If the previous forecast is still loaded, the user can avoid the necessity of re-entering the forecast date, filter criteria, and the Advanced options information by choosing **File => Reload Forecast**. The new forecast is based on the updated job definitions, using the previous forecast scenario.

Examine the forecast summary

The Forecast Summary window provides a summary of the currently loaded forecast. The window is useful for quickly identifying potential problems in the job flow. When used together with the What-If scenario, the Forecast Summary provides immediate feedback about the effects of What-If changes. For details about the What-If scenario, see "Examine the effects of potential changes (What-If scenarios)" on page 154.

To show or hide the Forecast Summary

Choose **View => Dockable Windows => Forecast Summary**.

The Forecast Summary displays several forecast totals under the following categories:

- Business Services
- Jobs

Examine the business service forecast

The Business Services window lists all the business services in the current forecast. This feature, which is only available if you have BMC Batch Impact Manager installed, allows you to identify critical batch services that are expected to miss their deadline.

To open the Business Services window

Choose **Tools => Batch Impact Manager => Business Services**.

The top section of the window, as shown in Figure 15, lets you specify filters for limiting the services displayed in the window.

Figure 15 Business Services window

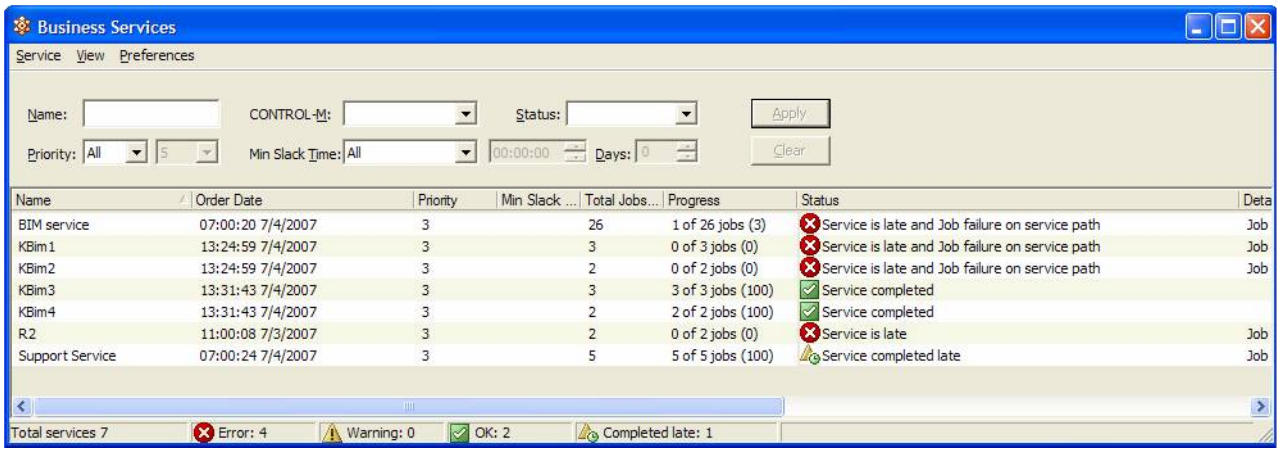
Business Services
Service View Preferences
Name:
CONTROL-M:
Status:
Apply
Priority: All
Min Slack Time: All
00:00:00
Days:
Clear
Name | Order Date | Priority | Min Slack ... | Total Jobs... | Progress | Status | Deta
BIM service | 07:00:20 7/4/2007 | 3 | 26 | 1 of 26 jobs (3) | Service is late and Job failure on service path | Job
KBim1 | 13:24:59 7/4/2007 | 3 | 3 | 0 of 3 jobs (0) | Service is late and Job failure on service path | Job
KBim2 | 13:24:59 7/4/2007 | 3 | 2 | 0 of 2 jobs (0) | Service is late and Job failure on service path | Job
KBim3 | 13:31:43 7/4/2007 | 3 | 3 | 3 of 3 jobs (100) | Service completed
KBim4 | 13:31:43 7/4/2007 | 3 | 2 | 2 of 2 jobs (100) | Service completed
R2 | 11:00:08 7/3/2007 | 3 | 2 | 0 of 2 jobs (0) | Service is late | Job
Support Service | 07:00:24 7/4/2007 | 3 | 5 | 5 of 5 jobs (100) | Service completed late | Job
Total services 7
Error: 4
Warning: 0
OK: 2
Completed late: 1

Table 23 describes the information available for each service listed.

Table 23 Fields in the Business Services window

Field	Description
Name	Name of the service.
Order Date	Date and time on which the service was ordered (its ODATE).
Priority	Priority level of the service, assigned when defining the service in the CONTROL-M / Desktop.
Total Jobs No.	Total number of jobs in the service.
Progress	The number of jobs completed out of the total number of jobs associated with the service.
Status	The status of the service. See Table 24 for a list of statuses.
Current Estimate to Completion	The time BMC CONTROL-M / Forecast server estimates that the service will complete.
Deadline	Time by which the service must complete to be considered not late.

Table 24 lists the possible statuses of a service.

Table 24 Service statuses and processing phases

Status	Icon	Description
Service completed		The batch service job completed on time.
Service has no jobs		Jobs related to this service were either not defined or not submitted.
Service is late		Either a service did not complete before the time defined in the **Must complete by** field in the BMC Batch Impact Manager job, or the service completed OK, but the end time of the service exceeded its Due time.
Service deadline is out of forecast scope		Forecast cannot identify the status since the service continues after forecast end time.

Examine the effects of potential changes (What-If scenarios)

BMC CONTROL-M/Forecast enables you to forecast the effects of potential changes to the scheduling environment. For example, you can forecast the effects of:

- having additional quantitative resources (such as more CPU or memory) available
- a job being submitted earlier or later, or having more time to run

Each potential (though not actually implemented) change is called a What-If event. A collection of one or more What-If events is called a What-If scenario. When you generate a forecast, you can apply a What-If scenario to influence the calculations of the estimated run times of the job flow forecast.

The What-If scenario feature provides the following advantages when experimenting with What-If events:

- the events do not effect the job editing definition in the database
- the user does not need to redefine job processing definitions
- several events can be grouped and applied together
- groups of events can be saved and recalled
- events can be simultaneously applied to multiple jobs

Defining What-If events

To create a new What-If event

1 Choose **File => New=> What-If**.

2 Select the appropriate What-If event type. For details, see Table 25 on page 155.

3 Specify the appropriate time and filter information in the fields.

NOTE

When entering information in the filter fields of the What-If dialog boxes, you can use a prefix, followed by an asterisk wildcard character (*), to denote any string starting with the prefix. You can also use a comma to separate pattern matching strings within the fields, enabling you to specify more than one string. (The comma represents a Boolean OR.)

4 Click **OK**.

Table 25 Types of What-If events you can forecast (part 1 of 2)

To forecast the effects of:	select (What-If event) type:	additional details
confirming a job at a specified time	**Confirm**	The following options are available: ■ **Average job start time** - according to BMC CONTROL-M / Forecast statistics ■ **New Day Time** - at the CONTROL-M New Day Time ■ **Time (HH:MM)** - enter a specific CONTROL-M / Server time ■ **Don't confirm** - If BMC CONTROL-M / Forecast is configured to use the average start time for all confirm jobs, ignore the specified jobs **Note:** If the ExecuteConfirmedJobs system parameter is set to confirm jobs, Forecast confirms all jobs at their average start times. Choosing the **Don't confirm** option overrides the setting, so that the specified jobs are not confirmed.
adding or removing a condition at a specified time	**Condition**	The following Order date options are available: ■ **ODAT** ■ **STAT** ■ **$$$$** ■ ******** ■ enter a specific date
adjusting the maximum quantity of a resource at a specified time	**Quantitative Resource**	The maximum can be specified by one of the following methods: ■ a change, relative to the original maximum ■ a new setting

Table 25 Types of What-If events you can forecast (part 2 of 2)

To forecast the effects of:	select (What-If event) type:	additional details
adjusting the estimated job run time	**Job Run Time**	The job run time can be specified by one of the following methods: ■ setting a run time ■ adding to, or subtracting from, the current run time, using either one of the following: — a percentage of the current run time — an amount of time
adjusting the job submission time frame	**Time Frame**	The time frame can be specified by entering one of the following: ■ the amount to shift the time frame forward or backward ■ the beginning and ending times - If either of the times is left blank, the New Day time of the CONTROL-M / Server is used. **Note:** The time frame refers to the span of time as defined in the job editing form on the Execution tab, beginning with the time specified in the **Submit between** field and ending with the time specified in the **to** field.
forcing the job to finish at a specified time	**Force OK**	The time can specified by entering one of the following: ■ **New Day Time** - of the specified CONTROL-M ■ **Time (HH:MM)** - a specific CONTROL-M / Server time

Managing What-If events with scenarios

When you create What-If events, they are automatically placed in a What-If scenario. Once they are in the scenario, you can edit, delete, or re-arrange the sequence of the individual events, and you can save the What-If scenario.

You can apply a scenario anytime you load a forecast, so that you can see how the resulting forecast is influenced by the scenario. If you load a forecast without a scenario, you can later either select a predefined scenario or create a new scenario and apply it by generating the forecast again.

TIP

To see the forecast results immediately after adding a What-If event to the What-If scenario, do the following:

1. Choose **Tools=> Options=>Forecast**.

2. Under What-If scenario, select **Automatic 'Run Forecast' on scenario update.**

BMC CONTROL-M / Forecast processes the What-If events, according to their event times. If the event times of two or more What-If events are the same, BMC CONTROL-M / Forecast processes them according to the order that they appear on the list in the What-If Scenario window, starting with the item that is higher up on the list.

To change the order in which What-If events are processed

1 Select the What-If event item in the What-If Scenario window.

2 On the What-If Scenario toolbar, click **Up** or **Down**, to move the item up or down the list.

3 Repeat step 2 as necessary, until the What-If event items are in the required order.

NOTE

In the What-If Scenario window, the What-If event items are grouped by type. The order of What-If event items can be changed only within a group type.

To save changes

Choose **File=>Save Scenario**.

To create a new What-If Scenario

1 Choose **File=>New =>Scenario**.

2 Add one or more What-If event items.

3 Save the What-If Scenario by choosing **File=>Save Scenario As**.

4 Enter a name for the What-If Scenario.

5 Click **OK**.

To apply a What-If Scenario to a forecast

1 Choose **File=>Open=>Scenario**.

2 Select the name of the pre-defined scenario you want to apply.

3 Choose **Actions=>Run Forecast**.

TIP

If you use automatic mode (**Tools=>Options=>Forecast=>Automatic 'Run Forecast' on scenario update**) there is no need to choose **Actions => Run Forecast** since the forecast automatically runs when you open the scenario.

Filter the forecast display

After the forecast is displayed in CONTROL-M / Desktop, you can filter the display according to your needs.

To filter the forecast

1 In CONTROL-M / Desktop, choose **View => Filter**.

2 In the Filter dialog box, specify values for the relevant fields.

3 Click **Apply** to re-display the forecast, showing only the jobs that match the specified criteria.

NOTE

Applying the filter does not change the Forecast Summary. For more details see "Examine the forecast summary" on page 152.

Adjust the forecast display

You can display the forecast in one of the following formats:

- flow diagram view
- Gantt chart view
- job list view

Examining the flow diagram view

This section describes certain indicators and features that are available when you view forecast flow diagrams.

To display the flow diagram view

Choose **View => Flowdiagram**.

- The word “Forecast” appears in the title bar of the flow diagram along with the date of the forecast.
- The estimated start and end times are displayed at the bottom of each job node.
- The title bars in job nodes are color coded, by default, as follows:
  - orange indicates which jobs will run
  - purple indicates which jobs will not run
- Regarding cyclic jobs
  - BMC CONTROL-M/Forecast handles each cycle of a cyclic job separately.
  - Only the first start and end times are displayed for cyclic jobs on their corresponding job nodes in the flow diagram. However, all start and end times are listed in the Execution tab of the cyclic job’s job editing form when viewing details.
  - The indicator for cyclic jobs is the same as in a standard flow diagram in CONTROL-M/EM.
  - Tool tips are available with the following information:
    - estimated first start and end execution time
    - number of total executions
    - maximum number of executions
    - interval
    - rerun from (start or end time)
- For BMC Batch Impact Manager
  - identifies the jobs associated with a critical batch service.
  - identifies the critical batch jobs that influence the critical batch service end time.
  - identifies jobs associated with a critical batch service that is expected to miss its deadline.
- You can see and jump to global conditions by clicking on the arrow connecting the jobs.
- You can use the Why option to determine why particular jobs are not expected to run or to view all events that the job is expected to encounter. This option presents all the job statuses during the period of the forecast.

To view the anticipated flow of events for jobs, groups, and so on

1 Right-click any node (application, group, table, job) or a set of nodes.

2 Select **Why** from the menu, which opens the Why dialog box. As you scroll down the list of jobs in the left pane, the expected start and end times, and status changes, of corresponding jobs are displayed.

3 Click **Close**.

NOTE

Forecasts are for browse purposes only. The following operations, for example, are not available for forecasts:

- No adding, deleting, or editing job processing definitions
- No mass update
- No collections

Examining the Gantt chart view

The Gantt view displays the job run time information for the loaded forecast. The same basic operations that can be performed in the flow diagram view can be performed in the Gantt view.

To display the Gantt view

Choose **View => Gantt**.

NOTE

In the Gantt view

- job definition details are available in the left pane where a tree hierarchy is combined with a list view
- the Network Overview is not available

To change the time scale

1 Choose **View => Gantt Scale**.

2 Select a scale.

TIP

If you want to quickly locate the beginning of a job run time bar, right-click on the job's node and choose **Focus on time-bar**. Use this feature if you scroll to a position where the time bar you want is not visible. For a cyclic job, the feature locates the beginning of the first cycle.

Examining the job list view

The job list view displays the job information for the loaded forecast. The same basic operations that can be performed in the flow diagram view can be performed in the job list view.

To display the job list view

Choose **View => Job List**.

Adjust the forecast

You can perform the following optional adjustments to forecasts:

- Setting up user dailies in z/OS data centers
- Setting up user dailies (optional for non-z/OS data centers)
- Managing conditions and external events

Setting up user dailies in z/OS data centers

Setting up user dailies for z/OS data centers is mandatory, and must be performed before generating forecasts at these data centers.

To define user dailies for z/OS data centers

1 In CONTROL-M/Desktop, choose **Tools => Forecast Configuration**, which displays the User Daily Definition tab in the Forecast Configuration dialog box.

2 Ensure that this tab lists the user dailies (groups of scheduling tables) that are typically run on a daily basis. (CONTROL-M/Forecast bases its calculations and estimates on the assumption that these user dailies are run.)

- To edit an existing user daily, select the user daily and click .
- To add a user daily, select the data center and click .
- To delete a user daily from the list, select the user daily and click .

3 To add or edit a user daily, do the following in the User Daily Definition (z/OS Only) dialog box, which is displayed when you click to the add or edit icon:

A Specify the name and time for the user daily and click **OK**.

B Using the arrows, move tables to or from the "All Data" list to the "Selected Data" list. CONTROL-M/Forecast uses any tables under the "Selected Data" list as the user daily when it generates a forecast.

C Click **OK**.

Setting up user dailies (optional for non-z/OS data centers)

Additional user dailies can be defined or existing user dailies modified using the User Daily definition dialog box.

Using the User Daily definition dialog box, you inform CONTROL-M/Forecast of any user dailies (and, for z/OS, groups of scheduling tables) that are typically run on a daily basis. CONTROL-M/Forecast bases its calculations and estimates on the assumption that these user dailies are run.

NOTE

- The SYSTEM user daily is assumed, and need not be specified.
- If the ctmudly CONTROL-M/Server utility is used from the command line and it is the only mechanism for setting up the user dailies at your data center, there is no need to define any user dailies using the procedure below.
- If the ctmudly utility is embedded in a job, use the UserDailyParamNO system parameter to specify which parameter refers to the user daily, so that BMC CONTROL-M/Forecast can identify the user daily.

To define user dailies for non-z/OS data centers

1 Choose **Tools => Forecast Configuration**, which displays the User Daily Definition tab in the Forecast Configuration dialog box.

2 To edit an existing user daily, select the user daily and click .
To add a user daily, select the data center and click .
To delete a user daily from the list, select the user daily and click .

3 If adding or editing a user daily, in the User Daily Definition dialog box, specify the time at which the user daily should run, and click **OK**.

Managing conditions and external events

The flexibility that CONTROL-M/Forecast provides in processing conditions allows you to improve the accuracy of the forecasts. This is illustrated by the following situations:

- CONTROL-M/Forecast assumes that all conditions from days prior to the start of the forecast exist at the beginning of the day of the forecast, including manual conditions, which are conditions that were not generated on the forecasted business day. You might, however, not want this assumption to extend to all conditions. For example, perhaps certain conditions are used to activate alternate flows in case of an error, or to activate flows designed to run only on specific days in the year (end of year, end of quarter, and so on). To handle these cases, you can list conditions that you want CONTROL-M/Forecast to ignore – meaning, CONTROL-M/Forecast will not assume these conditions exist.

- To simulate the integration of external applications with CONTROL-M, you can add conditions at specified times.

For more information on managing condition, comfirmation, and job run time rules, see "Defining, editing, and deleting exceptions" on page 122.

Generating forecast reports

Table 26 describes the reports that are available in the CONTROL-M Reporting facility, in the Forecast Analysis section. These reports provide information, such as trends and job runtimes, that help you plan future job schedules. To access these reports you require administrative privileges.

Table 26 CONTROL-M Reporting facility reports for evaluating trends

Report	Description
Workload	This report lets you view the workload of the enterprise by listing the total number, and names of, jobs that ran during a specific time frame. The output is produced in both graphic and table formats.
Trend Analysis	This report provides insight into the trends at the enterprise by listing the number of jobs that started during a specific time period in history, such as the first week of every month, or the last day of every week.
Jobs Execution	This report provides job execution information by listing the jobs with information, such as start time, end time, and average run time. You can group job execution information by time segment.

You can run these reports as you would any other CONTROL-M Reporting facility. For details regarding the reporting facility, see the *CONTROL-M User Guide*.

Chapter 13

Fine tuning

This chapter presents the following topics:

Refining forecasts with periodic statistics 165
Customizing options 166

Refining forecasts with periodic statistics

BMC CONTROL-M / Forecast uses statistics, such as average runtimes, to estimate job execution times. If for a specific job or set of jobs there is usually a variation in statistic values for different periods during the week, month, or year, there is a great advantage in collecting the statistics separately for each distinct period. Statistics which are collected separately for each period are called periodic statistics, and are managed using the Periodic Statistics Manager.

EXAMPLE

If the average runtime of a job during work days is different than during weekends there is an advantage of collecting statistics for this job separately for work days and for weekend periods. The average runtimes will then be much more accurate for each period.

For details about collecting periodic statistics using the Periodic Statistics Manager, see the *CONTROL-M User Guide*.

Customizing options

You can customize various default options for BMC CONTROL-M / Forecast.

To customize default options

1 In CONTROL-M / Desktop choose **Tools => Options**.

2 Select the Forecast panel, change the defaults, and click **Ok**.

Default options are described in the following table.

NOTE

The Forecast panel and its defaults settings are only available if the Forecast facility is installed.

Table 27 Forecast settings (Forecast panel)

Field/option	Default to be set
Color Settings	Color of job nodes in the Forecast flow diagram. You can select the color for executed jobs, non-executed jobs, and the display of the execution time.
Start Day of the Week	Day of the week on which a business week starts in the Forecast multiple nodes calendar display.
Maximum Jobs per Forecast Action	Maximum number of jobs to be included in the Forecast multiple nodes calendar display.
Display execution time	Time reference to be used when displaying the execution time in the job node or Gantt chart: local time or the time according to the CONTROL-M / Server.
Business Service Critical Path	The critical path consists of the jobs in the Business Service that have the most impact on the completion time of the service. The critical path is indicated in the flow diagram by special markings on the job nodes. If Forecast predicts that the Business Service will be delayed, the user can examine the jobs in the critical path to determine what factors are delaying the jobs. Options: ■ **Show complete path** – The entire critical path is indicated. ■ **Show until first gap** – Only the part of the critical path that has the most direct impact on the completion time is indicated.
Show CONTROL-M New Day indicators in Gantt view	Display red vertical lines in the Gantt chart that indicate the beginning of the New Day for each CONTROL-M.
Automatic 'Run Forecast' on scenario update	Automatically run a forecast when the What-If scenario is changed.
Show 'What-If Scenario Window' on new What-If	Automatically open the What-If Scenario window when a new What-If event is created.

Chapter 14

Administration tasks

This chapter presents the following topics:

Modifying CONTROL-M definitions in CONTROL-M/EM 167
Configuring BMC CONTROL-M/Forecast using system parameters 168
Importing and exporting BMC CONTROL-M/Forecast definitions and history . . 171
Generating diagnostics 172
Cleaning out BMC CONTROL-M/Forecast information 172
Purging obsolete periodic statistics entries 172
Purging historical job execution information 173
Assigning authorizations for periodic statistics definitions 174

Modifying CONTROL-M definitions in CONTROL-M/EM

BMC CONTROL-M/Forecast accesses the following fields in the CONTROL-M Definitions window in CONTROL-M/EM when it performs its calculations.

Table 28 CONTROL-M Definitions modified by BMC CONTROL-M/Forecast

Field	Description
Start Day Of the Week	The day of the week on which the business week starts at the CONTROL-M site. Valid values are Sunday through Saturday.
Day Time	Time that new day processing begins at the site. Because time zone differences may shift new day processing's estimated start time to the next or previous day, an additional attribute is displayed before the time of new day processing: blank means the current day, + means the next day and - means the previous day.
Time Zone	The time zone at the location of the CONTROL-M.
Daylight Savings Time	Start and end times for when summer officially begins and ends at the location of the CONTROL-M (for daylight savings time purposes).

Configuring BMC CONTROL-M/Forecast using system parameters

System variables influence the behavior of BMC CONTROL-M / Forecast components and features. Table 29 describes the function of each BMC CONTROL-M / Forecast -related system parameter and lists its default, if one exists.

BMC CONTROL-M / Forecast administrators can change the value of most of these system parameters. If, however, a system parameter is to be modified only upon instruction of Customer Support, this is noted in the description of that system parameter.

System parameters are modified using the System Parameters window of the CONTROL-M Configuration Manager. To learn how to modify a system parameter, see the working with system parameters topic in the *CONTROL-M Administrator Guide*.

NOTE

After modifying any of these system parameters, you must stop and restart the BMC Batch Impact ManagerServer.

Table 29 Forecast parameters (part 1 of 3)

System parameter	Description
AddAllOrphanConditions	Manual conditions are conditions that are specified as in conditions for jobs but will not exist at the time BMC CONTROL-M / Forecast generates its forecast. This may be because: ■ The job relies on a condition from a previous day. (Forecasts are only generated for a specific day.) ■ The job relies on a condition that has to be manually added or removed. This system parameter determines if, by default, BMC CONTROL-M / Forecast should assume orphan conditions exist when generating forecasts. Valid values: ■ **0**: orphan conditions are not assumed to exist ■ **1**: orphan conditions are assumed to exist at newday. ■ **2**: Orphan conditions are added at the average start time of the first job waiting for the condition. (Default)
AllowQueryFieldValues	Determines whether the drop-down lists of available values are displayed for fields in the What-If event definition dialog boxes. Valid values: ■ **0** – drop-down lists are not displayed ■ **1** – drop-down lists are displayed (Default)
AvgRunInfoHistory	Sets the number of historical samples used as a basis when calculating the average runtime for reporting purposes. Default: **20**

Table 29 Forecast parameters (part 2 of 3)

System parameter	Description
DefaultAverageTime	Average run time for jobs with no statistics. In the format **HH**:**MM**. This value is often used if no statistics are available. Default: **00:05**.
DeleteChunkSize	Determines the number of records deleted in one transaction by the purge_runinfo utility when removing run information from the RUNINFO_HISTORY table in the CONTROL-M/EM database. Default: **10000**.
ExecuteConfirmedJobs	Determines if, by default, BMC CONTROL-M/Forecast should assume all jobs are confirmed. Valid values: ■ **0** - all jobs are not confirmed (Default) ■ **1** - all jobs are confirmed at new day time. ■ **2** - all jobs are confirmed at the job's average start time.
IgnoreDeviationSampleCount	Defines how many expeceptional historical samples should be ignored when calculating the average runtime for reporting purposes. Default: **2**
MaxDailyRerunInfo	Defines the number of runs per day the gateway will keep in the history table for each job. Default: **-1** (No limit)
MaxForecastJobsInMem	Maximum number of jobs that should be retained in memory at a time on each BMC CONTROL-M/Forecast Server. BMC CONTROL-M/Forecast Server releases all memory after the forecast is closed in CONTROL-M/Desktop. Default: **200000** **Note**: This system parameter does not affect forecasts of schedules or reporting.
MaxForecastRunningRequests	Maximum number of forecast requests that can run simultaneously. Default: **5**
max_futureplan_cb_seq_size	Sets the minimum chunk size for jobs when generating the forecast. Default: **1000**
MaxSimulationDays	Number of days to simulate the running of the services to calculate estimated end times. Each additional day takes more CPU time during the calculation process. Default: **2**
RunInfoStatsPurgeDays	Sets the number of days that job runtime statistics, which have not been updated, are retained in the database. Default: **100** days
RunInfoStatsPurgeInterval	Sets the number of minutes between purges of obsolete job runtime statistics. Default: **30** minutes **Note**: A value of 0 prevents purging.
RunTimeHistoryDays	Sets the number of days historical statistics should be saved for reporting purposes. Default: **90** days
ScenarioMaxSize	Maximum size (in KB) of the XML files that hold forecast What-If scenarios. Default: **64**

Table 29 Forecast parameters (part 3 of 3)

System parameter	Description
SimulatorEngineStep	Interval, in seconds, the simulation advances its calculation of the estimated end time. Valid values: ■ **1** - Improves accuracy. ■ **10** - Default ■ **60** - Improves performance
upd_progress_interval_sec	If BMC CONTROL-M / Forecast should send updates when loading a forecast. Valid values are: ■ **0** - No ■ **1** - Yes (Default)
UserDailyCmdRegexp	Regular expression that identifies Command-type jobs that use the **ctmudly** user daily job to order tables. If the command specified in the **Command** field in a job editing form matches the expression, BMC CONTROL-M / Forecast assumes that the job uses **ctmudly**. Default: **^.*ctmudly[^]*** **Note:** The regular expression, **^.*ctmudly[^]***, identifies jobs that call **ctmudly**, regardless of the specified path or file extension.
UserDailyFileNameRegexp	Regular expression that identifies Job-type jobs that use a particular user daily job (usually **ctmudly**) to order tables. If the name specified in the **File Name** field in a job editing form matches the expression, BMC CONTROL-M / Forecast assumes that the job uses the user daily. Default: **^.*ctmudly.*** **Note:** If you use this system parameter, you must also use the **UserDailyParamNO** system parameter so that BMC CONTROL-M / Forecast can access the name of the user daily.
UserDailyParamNO	Numeric suffix of the AutoEdit variable, *%%PARAMn*, which contains the name of the user daily. For example, if this system parameter is set to **2**, BMC CONTROL-M / Forecast reads the name of the user daily from *%%PARAM2*. Default: **1**

Importing and exporting BMC CONTROL-M/Forecast definitions and history

Additional functionality for BMC CONTROL-M / Forecast has been added to the import and export options of the util utility. The following new import and export types are available:

- **forecast**

  This type imports or exports BMC CONTROL-M / Forecast definitions, such as user dailies, ignored conditions, and statistical data (for example, average job run time). In addition, the **all** type has been upgraded to import and export BMC CONTROL-M / Forecast definitions.

- **history**

  This type imports or exports historical data used by BMC CONTROL-M / Forecast. Because large amounts of historical information may exist in the database, the import and export operations can be time consuming. Therefore:

  — the **all** type does not import or export historical data

  — you must follow the procedure described below for importing historical data

To import historical data used by BMC CONTROL-M/Forecast

1 If using Sybase or MSSQL, change relevant database definitions to facilitate the import of large amounts of information. This is done by increasing the database time out value to 25 minutes (90,000 seconds) by adding the following entry to the **Databases.rsc** file:

```
Database    databaseName    QueryTimeout    90000
```

The **Databases.rsc** file is located in the following directory:

- On Windows: ***EMHome*\Gtwgcs\appl\site\resource\Databases.rsc**
- On UNIX: ***EMHome*/appl/site/resource/Databases.rsc**

2 Run the util command to import the historical data.

- On Windows:
  ```
  util <DB_ARGS> -import -type history
  ```
- On UNIX:
  ```
  ecs util <DB_ARGS> -import -type history
  ```

3 Clean out old historical information when finished using the purge_runinfo utility described under "Cleaning out BMC CONTROL-M/Forecast information" on page 172.

4 Reset the time out value that was modified in step 1 of this procedure.

Generating diagnostics

The CONTROL-M/EM DIAG diagnostics facility collects information from specified CONTROL-M/EM and BMC Batch Impact Manager components for troubleshooting analysis. This information is collected in a log file, whose contents can be viewed.

The log file is located in the CONTROL-M/EM log directory:

- Microsoft Windows: ***installationDirectory*\log**
- UNIX: ***installationDirectory*/log**

NOTE

Use the DIAG diagnostics facility only when you are instructed to do so by a representative of the BMC Software Customer Support staff. Data collected by the DIAG facility should be analyzed by support staff personnel. A Support Staff employee may request that you run this facility and send the output to BMC Software for analysis.

To generate diagnostics, and to send simple requests to networked BMC Batch Impact Manager components from within CONTROL-M/EM, run the ctl command line utility. This utility is described in the *CONTROL-M Utility Guide*.

Cleaning out BMC CONTROL-M/Forecast information

Purging obsolete periodic statistics entries

Each time a job completes its execution, its periodic statistics entry in the CONTROL-M/EM database is updated.

Periodic statistics entries that are not updated for a specified duration of time are considered obsolete and are removed from the database. The user specifies the duration of the time by setting the RunInfoStatsPurgeDays parameter (Type: cms) to the required number of days. For more information, see the system parameter section.

The CONTROL-M Configuration Manager server automatically purges the database of obsolete statistics records at specific intervals. The user determines the interval between purges by setting the RunInfoStatsPurgeInterval parameter (type: cms) to the required number of minutes. For more information, see the system parameter section.

Purging historical job execution information

Run the purge_runinfo maintenance utility to reduce the number of history days retained in the database by BMC CONTROL-M/Forecast for the purpose of performing its calculations. You should run the utility before changing the RunTimeHistoryDays system parameter.

The utility is located in one of the following directories, depending on your operating system:

- ***EMHome*\bin** on Microsoft Windows
- ***EMHome*/scripts** on UNIX

The logs of the utility are located in the installation log directory both in UNIX and in Microsoft Windows. The log that shows the run flow of the utility is called **purge_runinfo_run.log**.

To run purge_runinfo to clean out BMC CONTROL-M/Forecast run information:

Decide whether to run the utility interactively or silently and then follow the appropriate instructions below:

Interactively:

1 Run one of the following files, based on your operating system:

— ***EMHome*\bin\purge_runinfo.bat** on Microsoft Windows
— ***EMHome*/scripts/purge_runinfo** shell script on UNIX

2 Answer the prompts as they appear. You will be asked for the following information:

- the number of days to retain the information about the run of the jobs
- the CONTROL-M/EM DBO user name and password

The utility has finished when the message `Ended successfully` is displayed.

Silently (in batch):

Run the following command:

purge_runinfo –U *emUser* -P *emPass* -keep_days *numDaysRetain*

EXAMPLE

On UNIX, you can hide the password using the file method (in this example, **X** is the name of the file that contains the password):

cat *X* **| purge_runinfo –U** *emUser* **-P** *emPass* **-keep_days** *numDaysRetain*

numDaysRetain is the number of days to retain the statistics. If *numDaysRetain* is **2**, all statistics prior to two days before the current date will be deleted.

purge_runinfo –U *myuser* **-P** *mypassword* **-keep_days 2**

NOTE

The DeleteChunkSize system parameter determines the number of records deleted in one transaction by the purge_runinfo utility when removing run information from the RUNINFO_HISTORY table in the CONTROL-M/EM database. If the DeleteChunkSize value is smaller than the parameter value no data is deleted. For more information, see "Configuring BMC CONTROL-M/Forecast using system parameters" on page 168

Assigning authorizations for periodic statistics definitions

Access to the periodic statistics definitions can be controlled by assigning appropriate privileges to users and groups.

To assign user or group privileges for periodic statistics definitions

1 Choose **Tools => Authorizations**.

2 Select the **Privileges** tab.

3 Under the **Monitoring and Administration Tools** section, select one of the available values for the access level (see Table 30) next to the **Periodic Statistics** category.

Table 30 Access level for periodic statistics definitions

Access level	Description
Full	Authorized to view, modify, add and delete periodic statistics definitions.
Browse	Authorized to view periodic statistics definitions. Not authorized to modify, add or delete periodic statistics definitions.
None	Not authorized to view, modify, add or delete periodic statistics definitions.
Default	Authorizations for this user are the same as those of the group (see Table 31) that the user belongs to.

Table 31 Default access level for various groups

Group	Access level
AdminGroup	Full
BrowseGroup	Browse
UpdateGroup	Full

Part 4

BMC Batch Discovery

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Chapter 15

Introduction

This chapter presents the following topics:

About BMC Batch Discovery 179
BMC Batch Discovery concepts 179
Getting started 182

About BMC Batch Discovery

BMC Batch Discovery helps companies achieve Business Service Management (BSM) by providing an automated method for discovering batch services and their dependencies in the IT environment, and inserting the information into the BMC Atrium Configuration Management Database (BMC Atrium CMDB).

BMC Atrium CMDB is a central source that lists all the components of an IT environment and details how those components are configured and interrelated. The BMC Atrium CMDB is the source of information for IT services, including service desk management, asset management, and change management.

Using BMC Batch Discovery, BMC Atrium CMDB can be populated with information about critical batch services that are defined and monitored with CONTROL-M/EM and BMC Batch Impact Manager. The overall result is enhanced control over change processes and system failures in the IT environment.

BMC Batch Discovery concepts

BMC Batch Discovery is designed to discover batch services and their dependencies to IT infrastructure, and to create the related configuration items (CIs) in BMC Atrium CMDB. The computer system CIs, which BMC Batch Discovery creates, contain sufficient information to uniquely identify the computer systems.

BMC Batch Discovery is the critical link between the CONTROL-M environment, where batch services are managed and run, and BMC Atrium CMDB, where the information about the services and the environment in which they are running is stored and managed.

The basic system configuration for monitoring batch services requires the following components:

- CONTROL-M/Enterprise Manager
- BMC Batch Impact Manager
- BMC Batch Discovery
- BMC Atrium CMDB
- BMC Remedy AR System

The CONTROL-M/EM environment, where jobs and batch services are defined and monitored, requires an installation of BMC Batch Impact Manager. BMC Batch Impact Manager is a key component because it allows the definition of batch services on a business process level.

Accessing the CONTROL-M/EM database, BMC Batch Discovery discovers the batch service definitions and the computer systems running the services. BMC Batch Discovery populates BMC Atrium CMDB with the related configuration items.

BMC Remedy AR System allows the user to access BMC Atrium CMDB. With the CI Relationship Viewer, BMC Remedy AR System's CI browser, the user can view CIs, as well as their relationships and dependencies with other CIs stored within the BMC Atrium CMDB.

The above configuration can be enhanced by using BMC Remedy Change Management Application to access BMC Atrium CMDB. BMC Remedy Change Management Application is a system that is specifically designed for IT change management, increasing the speed and consistency in implementing changes while minimizing risk and errors. With its GUI for BMC Atrium CMDB, it helps users to quickly identify the impact and risk that proposed IT changes have on business objectives, ensuring that IT change is managed in harmony with the business.

The following example will help you visualize how a company can benefit from using BMC Batch Discovery:

At Saturn Industries, several essential batch services run on servers, SAT1, SAT2, EB1, EB2, CS1, and CS2. The system administrator is systematically upgrading all servers, and now needs to upgrade the CS1 server.

Before scheduling the upgrade, the administrator needs to know how shutting down CS1 will impact the business. The administrator runs BMC Batch Discovery to update BMC Atrium CMDB with the current status of the batch service scheduling environment. BMC Batch Discovery discovers all the batch services in the CONTROL-M/EM environment and populates BMC Atrium CMDB with CIs that represent the batch services and the computers systems that they run on.

The administrator accesses BMC Atrium CMDB, using BMC Remedy Change Management Application, and sees that the BS1, PAYROLL, SALES, and INVENTORY batch services run on CS1. Using CONTROL-M/Forecast, the administrator determines that BS1 and SALES are scheduled to run every Sunday, while PAYROLL and INVENTORY are scheduled to run the first Monday of the month. Since it happens to be the first week of the month, the administrator schedules the planned upgrade on Tuesday, when shutting down CS1 will not interrupt any of the batch services and neither will there be any impact on the business.

TIP

To integrate more detailed information into the computer system CIs, use BMC Topology Discovery. BMC Topology Discovery identifies IT components, such as Web servers, application servers, gateways, and databases, and the relationships between them. BMC Topology Discovery populates BMC Atrium CMDB with the related configuration items.

When both BMC Topology Discovery and BMC Batch Discovery are installed, two groups of computer system CIs are created in the BMC Atrium CMDB.

The CIs created by the BMC Batch Discovery contain minimal information about the computer systems, while the CIs created by BMC Topology Discovery contain complete information about the computer systems.

The reconciliation process, which occurs in the BMC Atrium CMDB, matches the CIs created by the BMC Batch Discovery with the CIs created by BMC Topology Discovery, and only the complete versions pass into the BMC Atrium CMDB Asset Database.

The result is that the batch service CIs are linked to CIs that contain complete information about the computer systems. If an administrator must make decisions regarding a batch service, the information about the computer systems is immediately accessible from the BMC Atrium CMDB.

Getting started

Table 32 outlines the major tasks and workflow for using BMC Batch Discovery.

Table 32 BMC Batch Discovery workflow

Task	Description	Document/chapter
1	Install BMC Batch Discovery.	"Installing BMC Batch Discovery" on page 183
2	Install batch service extensions in BMC Atrium CMDB.	CONTROL-M integration with CMDB Technical Bulletin
3	Ensure that CONTROL-M/EM is running and that BMC Batch Impact Manager is installed.	"Installing BMC Batch Impact Manager Server" on page 50
4	Run BMC Batch Discovery.	"Running BMC Batch Discovery" on page 189.
5	View the batch service CIs that have been created in BMC Atrium CMDB.	"Viewing the batch services in BMC Atrium CMDB" on page 191.

NOTE

The following assumptions are presumed in this release of the product:

- BMC Batch Discovery is installed within a fully functional CONTROL-M/EM installation that includes BMC Batch Impact Manager.
- One CONTROL-M/EM domain is supported for each BMC Atrium CMDB installation.
- BMC Batch Discovery creates a batch service CI even if the service is currently inactive.

Chapter 16

Installation

This chapter presents the following topics:

Installing BMC Batch Discovery 183
Checking requirements. 184
Installing on UNIX 184
Installing on Microsoft Windows 185
Uninstalling BMC Batch Discovery. 187
Uninstall on UNIX. 187
Uninstall on Microsoft Windows 187

Installing BMC Batch Discovery

This section describes how to install BMC Batch Discovery on the CONTROL-M/EM server components. It is not possible to install BMC Batch Discovery on CONTROL-M/EM clients.

The installation wizard installs BMC Batch Discovery in the CONTROL-M/EM home directory.

First refer to the "Checking requirements" section and then refer to one of the following sections for instructions that are appropriate for your operating system:

- Installing on UNIX
- Installing on Microsoft Windows

Checking requirements

The checklist in Table 33 summarizes the preparations for installing BMC Batch Discovery.

Table 33 Installation preparation checklist

Consideration or requirement	Enter information here, or check when done
Ensure that a full installation of CONTROL-M/EM version 6.4.01 (including server components) is installed on the target computer.	
Ensure that BMC Batch Impact Manager version 6.4.01 is installed on the target computer.	
Install the BMC Batch Impact Manager extension on the relevant AR Server. The extension and the Technical Bulletin containing instructions for installing the extension resides in ftp://ftp.bmc.com/pub/control-m/opensystem/CONTROL-M_Integration_With_CMDB-Batch_Service/6.4.01.	

Installing on UNIX

1 Ensure that the database server that contains the CONTROL-M/EM database is up and running.

2 Mount the BMC Batch Discovery installation DVD.

3 Log on as a CONTROL-M/EM user using the account where a full installation of CONTROL-M/EM version 6.4.01, including server components, is installed.

4 Type the following command:

```
<cdDrive>/Unix/setup.sh
```

A license agreement is displayed.

5 Read the agreement, scrolling with the **Enter** and **spacebar** keys as necessary.

6 After reading the entire agreement, type **y** to accept the agreement.

7 Answer the prompts that are displayed.

8 When the installation finishes, press **Enter**.

Installing on Microsoft Windows

BMC Batch Discovery can installed on Microsoft Windows either using an interactive procedure or a batch file (silent installation) as described in the following sections.

Interactive installation

NOTE

Depending on your Windows security settings, you may receive a Microsoft warning about running the BMC Software installation file. You can safely ignore this message.

1. Ensure that the database server that contains the CONTROL-M/EM database is up and running.
2. Log on to a CONTROL-M/EM computer where a full installation of CONTROL-M/EM version 6.4.01, including the server components, is installed.
3. Insert the BMC Batch Discovery installation DVD and start the installation wizard by running **Setup.exe**.
4. Follow the instructions in each dialog box and click **Next**.
5. When the installation finishes, click **Finish**.

Silent installation

Silent installation is used to install BMC Batch Discovery from a batch file. Note that it is not supported for Windows cluster environments.

Two stages are involved:

1. **Preparing the batch file**

   This is accomplished by running a silent installation preparatory procedure from the installation DVD. The preparatory procedure behaves like the interactive installation procedure and prompts you to enter the same information. However no installation is performed. Instead, the information you enter is stored in a batch file.

2. **Running the prepared batch file**

   When the prepared batch file is run, BMC Batch Discovery is installed using the parameters you specified in the previous step. You can reuse this batch file to silently install BMC Batch Discovery on other computers.

To prepare the silent installation batch file

1 If your database server is Oracle, MSSQL, or Sybase, ensure that you follow the instructions described in the *CONTROL-M Installation Guide*.

2 If the installation DVD will be accessed through a network, you must first map the DVD drive and assign a drive letter.

3 Insert the installation DVD into the mapped drive, navigate to the installation folder, and run the following command:

<*dvdPath*>\prep_silent.bat

WARNING

If the security settings at your site do not allow the "ping" command to be used, the **"%Source_dir%setup.bat"...** line in the **prep_silent.bat** file must be modified as follows:

"%Source_dir%setup.bat"/s /v"BMC_SILENT_INSTALL=\"Y\" BMC_SKIP_PING=\"Y"<SPACE>/l*v\"%InstallLogFile%\""

It is necessary to copy the **prep_silent.bat** file to a local drive to facilitate this change. After making the change, run the modified **prep_silent.bat** file from the local drive.

4 After selecting the type of installation required and entering the necessary parameters values at the prompts, select **Save & Exit** to save the parameters. The parameters are saved to: **%TEMP%\BMC_CMDB_silent.bat**.

To install silently

1 Log on to the target computer using an ID with Administrator privileges.

2 Run the following command from the installation DVD to install **.Net Framework 2.0.**

dotnetfx.exe /q:a /c:"install /l /q"

3 If the **BMC_CMDB_silent.bat** file will be accessed through a network, you must first map the DVD drive and assign a drive letter.

4 Open a command prompt window, navigate to the path where the **BMC_CMDB_silent.bat** file now resides, and run the silent installation by issuing the following command:

<*path*>\BMC_CMDB_silent.bat

Uninstalling BMC Batch Discovery

To uninstall, perform the steps relevant for your operating system:

- Uninstall on UNIX
- Uninstall on Microsoft Windows

Uninstall on UNIX

NOTE

The CONTROL-M/EM database must be running for the uninstall procedure to work properly.

1 Log on to the account where BMC Batch Discovery is installed.

2 Run the following command to uninstall BMC Batch Discovery:

```
$HOME/BMCINSTALL/uninstall/batch_discovery_uninstall.sh
```

3 Answer the prompts that are displayed.

4 Type **Y**, and press **Enter**. The following message is displayed:

```
CONTROL-M/EM Batch Discovery component uninstall procedure ended
successfully.
```

Uninstall on Microsoft Windows

NOTE

Depending on your Windows security settings, you may receive a Microsoft warning about running the BMC Software installation file. You can safely ignore this message.

1 From the Start menu, choose **Settings => Control Panel**, and double-click **Add/Remove Programs**.

2 Select **BMC Batch Discovery 6.4.01** and click **Add/Remove**.

Chapter 17

Discovering batch services

This chapter presents the following topics:

Running BMC Batch Discovery 189
Viewing the batch services in BMC Atrium CMDB 191

Running BMC Batch Discovery

To invoke BMC Batch Discovery

1 Begin according to your operating system:

Windows: Open the Command Prompt window and navigate to the **bin** folder, located in the CONTROL-M/EM installation folder where BMC Batch Discovery was installed.

UNIX: Log on to a CONTROL-M/EM administrator account.

2 Enter the following command:

Windows:
ecs_batchdiscovery -u <*emUser*> **-aru** <*arUser*> **{-p** <*emPassword*> **-arp** <*arPassword*> **| -pf** <*passwordFile*>**} -gsr** <*guiServerName*> **-ars** <*arServerName*> **[-cms** <*cms*>**] [-run_job_recon] [-run_job_purge]**

UNIX:
ecs batchdiscovery -u <*emUser*> **-aru** <*arUser*> **{-p** <*emPassword*> **-arp** <*arPassword*> **| -pf** <*passwordFile*>**} -gsr** <*guiServerName*> **-ars** <*arServerName*> **[-cms** <*cms*>**] [-run_job_recon] [-run_job_purge]**

Table 34 BMC Batch Discovery parameters

Parameter	Description
-u	CONTROL-M/EM administrator name.
-p	CONTROL-M/EM administrator password.
-aru	BMC Remedy ITSM AR System administrator name. Optional **Note**: If the BMC Remedy ITSM AR server parameters (aru, arp, and ars) are not supplied, BMC Batch Discovery connects to the BMC Remedy ITSM server that is configured to work with BMC Batch Impact Manager.
-arp	BMC Remedy ITSM AR System administrator password. Optional **Note**: If the BMC Remedy ITSM AR server parameters (aru, arp, and ars) are not supplied, BMC Batch Discovery connects to the BMC Remedy ITSM server that is configured to work with BMC Batch Impact Manager.
-pf	Name of flat file containing a list of unencrypted passwords, on separate lines, in the following format: *EM password* *AR System password* **Note:** To use the password file, specify the **-pf** parameter instead of the **-p** and **-arp** parameters**.** If only **-u** or **-aru** are specified, online prompts are issued for the passwords. If the **-pf** parameter is specified with **-p** or **-arp**, the **-p** and **-arp** parameters are ignored.
-gsr	Name of CONTROL-M/EM GUI Server.
-ars	Name of the BMC Remedy ITSM AR System server through which BMC Batch Discovery is connected to BMC Atrium CMDB. Optional. **Note**: If the BMC Remedy ITSM AR server parameters (aru, arp, and ars) are not supplied, BMC Batch Discovery connects to the BMC Remedy ITSM server that is configured to work with BMC Batch Impact Manager.
-cms	Name of CONTROL-M Configuration Manager. Optional. (Default: CMS)
-run_job_recon	Specifies that the BMC Batch Discovery reconciliation job runs in BMC Atrium CMDB at the end of the process. Optional.
-run_job_purge	Specifies that the BMC Batch Discovery purge job runs in BMC Atrium CMDB at the end of the process. Optional.

3 Press **Enter**.

The “BMC Batch Discovery ended successfully” message indicates that BMC Batch Discovery completed the process of populating BMC Atrium CMDB with configuration information from the CONTROL-M/EM database. If the run_job_recon option was specified, BMC Atrium CMDB automatically starts the reconciliation process, which may take a few minutes.

If BMC Batch Discovery does not end successfully, a return code is displayed (see Table 35). The code can be used to detect how the application failed.

Table 35 BMC Batch Discovery return codes

Return code	Description
0	Success
1	Failure
2	Operating system not supported
255	Failure

Viewing the batch services in BMC Atrium CMDB

After running BMC Batch Discovery, the batch service can be viewed in BMC Atrium CMDB.

To view the batch service in BMC Atrium CMDB

1 Launch the BMC Remedy AR System user console.

2 In the **Quick Links** pane, select **CMDB Console**.

3 On the **CMDB Home** tab, select **CMDB => Browse Instances**.

4 In the **Browse Instances** pane, set the following fields:

Field	Value
Class Type	CI
Namespace	BMC.CTM
Class Name	BMC_BatchService
Where	BatchServiceID Like %

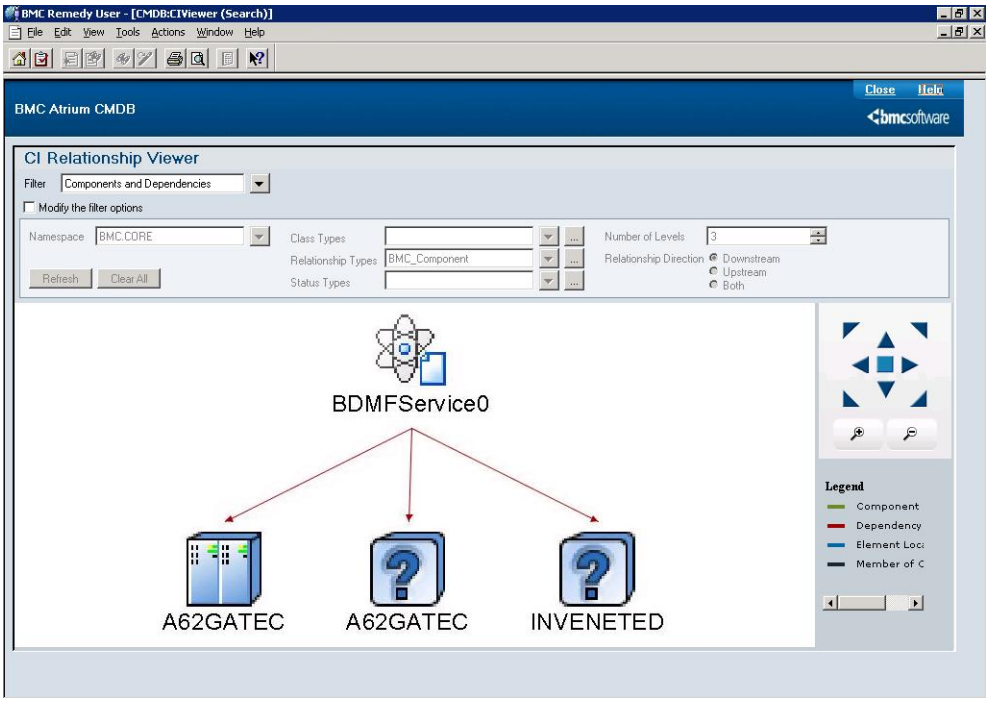
5 Select **Search**.

The batch services that are monitored by BMC Batch Impact Manager are listed under **Search Results**.

6 Select a batch service and click **CI Relationship Viewer**.

A graphic representation of the batch service and its dependencies is displayed in the **CI Relationship Viewer** pane.

Figure 16 View of a batch service and its dependencies



Part 5

Appendixes

This part presents the following topics:

Appendix A
Installing and using the Demo environment 195

Appendix B
Troubleshooting. 201

Appendix C
Parameter and object reference 207

Installing and using the Demo environment

A demo environment is provided with BMC Batch Impact Manager to enable you to familiarize yourself with BMC Batch Impact Manager features before going into production. This appendix describes how to install and use this demo environment.

Installing the Demo environment 195
Using the Demo environment 197

Installing the Demo environment

Perform the following steps to install the Demo environment.

1 Start CONTROL-M / Desktop.

2 Choose **File => Open**.

3 Open the **bimdemo** draft file in the **<*emHome*>/ECSBimServer/bimdemo** directory.

4 Choose **Edit => Find and Update**. Update the fields as indicated in the following table:

Field	Operator	From	Type of change	To
CONTROL-M	=	TLVW2K424	Update	*<Any relevant CONTROL-M>*

5 Click **Apply** to apply the changes.

6 For UNIX jobs only:

A Click **Clear**.

B Update the fields as indicated in the following table:

Field	Operator	From	Type of Change	To
Make the following changes for UNIX jobs only:				
CmdLine	=	_sleep 20	Update	sleep 20

C Click **Apply** to apply the changes.

D Click **Clear**.

E Update the fields as indicated in the following table:

Field	Operator	From	Type of Change	To
Make the following changes for UNIX jobs only:				
CmdLine	=	_sleep 240	Update	sleep 240

F Click **Apply** to apply the changes.

G Click **Clear**.

H Update the fields as indicated in the following table:

Field	Operator	From	Type of Change	To
Make the following changes for UNIX jobs only:				
Owner	=	controlm	Update	*<userNameForTheComputerHostingControl-m>*

I Click **Apply** to apply the changes.

7 (For all platforms:) Click **Close** to close the Find and Update dialog box.

8 Choose **File => Write to CONTROL-M/EM** and write the bimdemoTbl table to CONTROL-M/EM.

9 Choose **Tools => Scheduling Table Manager**, and then either **Upload** or **Force Upload** to upload the table to CONTROL-M.

10 Click **Close** to close the Scheduling Table Manager.

11 Start the CONTROL-M Configuration Manager.

12 Restart the BMC Batch Impact Manager Server.

NOTE

Review the scenarios provided in the demo environment as described under "Using the Demo environment" on page 197 before ordering or forcing the bimdemoTbl scheduling table. This is because certain scenarios will start as soon as the table is ordered.

13 Order the bimdemoTbl table in CONTROL-M/Desktop.

Using the Demo environment

The demo environment contains the following scenarios:

- The "service is late" scenario
- The "job failed" scenario

The "service is late" scenario

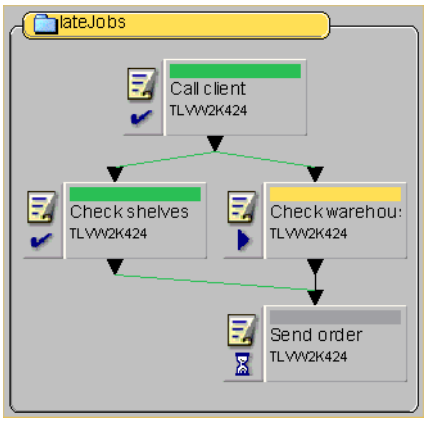
This scenario illustrates how BMC Batch Impact Manager can be used to send an alert when a service is late.

The scenario starts as soon as the bimdemoTbl table is ordered.

Assume the following:

- The *Send Order* BMC Batch Impact Manager job sets the Must complete by time to three minutes after the order time.
- The DefaultAverageTime system parameter (described on page 132) is set to 1 minute so the service should complete on time.

Figure 17 "Service Is Late" scenario in Demo environment



As illustrated in Figure 18, assume the following:

Order in which the jobs run	Job	Description	Run time
1	*Call client*		1 minute
2	*Check shelves*		1 minute
3	*Check warehouse*		4 minutes
4	*Send Order*	BMC Batch Impact Manager dummy job that defines the service: ■ The Must Complete By time is set to 3 minutes ■ A rule for the Service is Late event specifies that an alert should be sent using the Do Shout action parameter.	0 minutes
		Total Run Time	> 3 minutes

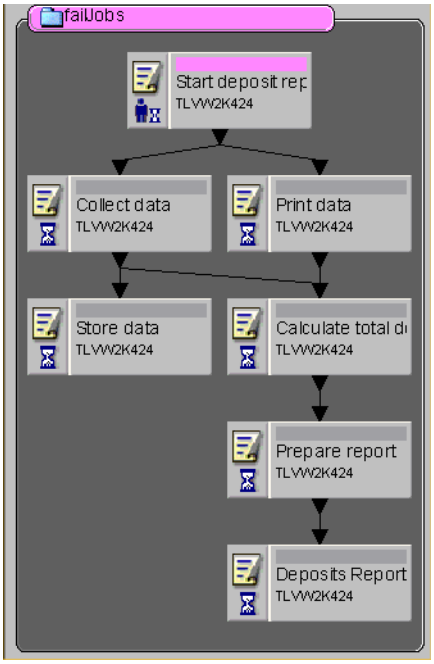
The *Call client* job runs for one minute. After the *Call client* job completes, the *Check shelves* job and the *Check warehouse job* run in parallel. The *Check shelves* job runs for one minute. The *Check warehouse job* runs for four minutes, instead of its usual one minute. After two minutes, BMC Batch Impact Manager determines that the *Check warehouse job* will cause the service to exceed its Must Complete By time and be late. At this point, BMC Batch Impact Manager issues an alert to the Global Alerts Server.

The "job failed" scenario

This scenario illustrates how BMC Batch Impact Manager can be used to send an alert when a job fails.

The scenario starts when the bimdemoTbl table is ordered and you confirm the first job, *Start deposit report*.

Figure 18 "Job failed" scenario in Demo environment



As illustrated in Figure 18, assume the following:

- The service consists of the following jobs:

Order in which the jobs run	Job	Description	Dependencies
1	*Start deposit report*		User confirmation
2	*Collect data*	This job runs for 20 seconds in parallel with *Print data*.	*Start deposit report* must end OK
2	*Print data*	This job is supposed to run for 20 seconds in parallel with *Collect data*. However, this job fails. As defined in its job processing definition, CONTROL-M/EM sends an alert to the Global Alerts Server. The failure does not impact the BMC Batch Impact Manager service.	*Start deposit report* must end OK
3	*Calculate total deposits*	This job runs for 20 seconds in parallel with the *Store data* job.	Either *Collect Data* or *Print data* must end OK

Order in which the jobs run	Job	Description	Dependencies
3	*Store data*	This job is supposed to run for 20 seconds in parallel with the *Calculate total deposits* job. However, this job fails. As defined in its job processing definition, CONTROL-M/EM sends an alert to the Global Alerts Server. The failure does not impact the BMC Batch Impact Manager service, because the BMC Batch Impact Manager job is not dependant on the *Store data* job.	*Collect Data* must end OK
4	*Prepare report*	This job fails. In this case, an alert is sent to the Global Alerts Server and, because this will impact the service, the BMC Batch Impact Manager Server also sends an alert to the Global Alerts Server.	*Calculate total deposits* must end OK
5	*Deposits Report*	BMC Batch Impact Manager dummy job that defines the service: ■ A rule for the Job Failed event specifies that a BMC Batch Impact Manager alert should be sent using the Do Shout action parameter.	

After user confirmation, the *Start deposit report* job runs, followed by the *Collect data* and *Print data* jobs.

Even though the *Print data* job fails, there is no impact on the service. This is because the next job, *Calculate total deposits*, depends on either *Collect data* or *Print data* ending successfully -- both do not have to end successfully. Because there is no impact on the service, the only alert issued to the Global Alerts Server is the standard CONTROL-M/EM alert.

Similarly, *Calculate total deposits* runs at the same time as the *Store data* job. The *Store data* job fails, but because it has no out conditions it is not considered part of the service and does not impact the service.

After the *Calculate total deposits* job ends, the *Prepare report* job starts and fails. This time, however, there is an impact to the service and an alert is sent by the BMC Batch Impact Manager Server.

In this scenario, assume that we want to ignore that the *Prepare report* job failed. After the alert is sent, perform the Force OK action (by right-clicking the node and selecting Force OK) on the *Prepare report* job. If the *Prepare report* job is forced OK, the service continues and the alert previously sent is automatically set to Handled.

Troubleshooting

This appendix provides various tips to help you troubleshoot problems that may arise while working with BMC Batch Impact Manager.

This appendix presents the following topics:

Installing BMC Batch Impact Manager 201
Using the BMC Batch Impact Manager Web Application 202
Defining exceptions 204
Synchronization with CONTROL-M 204
Defining BMC Batch Impact Manager jobs 205

Installing BMC Batch Impact Manager

When uploading BMC Batch Impact Manager information into BMC Service Impact Manager, the load.cmd command does not complete

Explanation: As part of the integration between the BMC Batch Impact Manager and BMC Service Impact Manager, the load.cmd is called. This command may hang if it cannot restart the mcell_<hostname> service.

User response: You must regularly check that the mcell_<hostname> service is running by pressing **F5** to refresh the display periodically . If the mcell_<hostname> service stops, restart it. This may happen several times while load.cmd is running.

Using the BMC Batch Impact Manager Web Application

When attempting to start the BMC Batch Impact Manager Web Application on Tomcat, startup fails and a JAVA exception is issued

Explanation: After deploying BMC Batch Impact Manager on Tomcat and trying to start the BMC Batch Impact Manager Web Client using Internet Explorer, a JAVA exception is caught and displayed:

Unable to compile class for JSP
No Java compiler was found to compile the generated source for the JSP.

User response: Copy the **tools.jar** file from the j**ava_home/lib** directory to the **tomcat_home/common/lib** directory and restart Tomcat.

When starting the BMC Batch Impact Manager Web Client, an error message indicates that BMC Batch Impact Manager Server is down (when it is not)

Explanation: This occurs after upgrading the version of BMC Batch Impact Manager (either by installing a new version or installing a fix pack) and re-deploying BMC Batch Impact Manager in the web server.

User response: After re-deployment and before restarting the web server, delete temporary BMC Batch Impact Manager compilation files in the web servers (for example, using Tomcat, delete the **bim** directory located in **tomcat_home/work/Catalina/localhost**). Also, verify that the port number for the server is correct (by clicking **Advanced** in the BMC Batch Impact Manager Web Client login screen).

A job in a service had a warning of Job ran too long/Job ended too quickly, but now it is displayed as OK

Explanation: Job ran too long and Job ended too quickly are warnings, which disappear after the next job successfully completes.

User response: You can modify your refresh intervals (using the DetectProblemsInterval system parameter) so that the refresh interval for the BMC Batch Impact Manager Web Client is approximately the same amount of time as, or longer than, the time it takes a job to run. This should make these warnings more noticeable.

My problematic services disappear from the BMC Batch Impact Manager Web Client after the New Day Procedure runs

Explanation: A service that has a problem (for example, Service is Late) was displayed in the BMC Batch Impact Manager Web Client. After the New Day Procedure runs, the service disappears from the interface.

User response: BMC Software recommends that you set the Max Wait parameter for the BMC Batch Impact Manager job to **2** in the Execution panel of the job editing form in CONTROL-M/EM. This ensures that the BMC Batch Impact Manager job remains even after the New Day Procedure runs.

The "Job ran too long" and "Job ended too quickly" statuses are not calculated correctly by the CONTROL-M/BMC Batch Impact Manager

Explanation: The CONTROL-M/BMC Batch Impact Manager did not calculate the Job ran too long and Job ended too quickly statuses, possibly because the CONTROL-M on which the job ran did not provide the start time of the job. Without the start time, BMC Batch Impact Manager cannot calculate statuses correctly.

This may happen if the relevant patches are not installed for CONTROL-M/Server.

User response: To determine if this is the case, locate the following error in the **bim_diag.*machine*.##.*date*.##.log** BMC Batch Impact Manager log:

date time [1] ctm_bim_calculator CtmBim_Calculator::TestRunningJob(thread 697) Failure to retrieve start time for running job "SLEEP1(040516OUO_B/MVS610/OODMY)". Will use now time *time date*

If this error appears in the log, apply the correct patches for the relevant CONTROL-M for distributed systems necessitates the installation of the certain fix packs (which apply the correct patches).

For a list of the specific patches to install on z/OS, see "z/OS patch requirements" on page 59.

The BMC Batch Impact Manager Web Client does not display the due time for a service and the status of the service remains "Calculating the status"

Explanation: The due time for a service may not always be displayed in the BMC Batch Impact Manager Web Client. This can happen if

- at least one CONTROL-M is down or there is a connection problem (in this case, you will see a red star in the BMC Batch Impact Manager Web Client)
- a CONTROL-M is very busy and takes a long time to respond
- the log of the BMC Batch Impact Manager job was deleted from the CONTROL-M, and as a result, BMC Batch Impact Manager can not calculate the due time

User response: Ensure a connection to the CONTROL-M is established.

If the BMC Batch Impact Manager service should remain in the Active Environment for more than one day, verify and configure CONTROL-M so that the log is not deleted while the BMC Batch Impact Manager job is still in the active environment.

Defining exceptions

I defined exceptions for the average time of jobs in my critical batch service, but the displayed values are different from what I defined

Explanation: Using the CONTROL-M/EM Exceptions tool, you can create more than one exception for the same job average run time. If multiple exceptions exist with the same criteria, BMC Batch Impact Manager uses any one of the exception definitions for jobs that match the criteria (meaning, not necessarily the exception that the user anticipates).

User response: Create exception criteria that resolve uniquely so that jobs always matches one, and only one, exception.

Synchronization with CONTROL-M

I removed a CONTROL-M definition using CONTROL-M/EM, but the services for that CONTROL-M still appear.

Explanation: Even if a CONTROL-M is removed, BMC Batch Impact Manager still attempts to retrieve service-related information from it.

User response: Restart BMC Batch Impact Manager.

Defining BMC Batch Impact Manager jobs

My job processing definitions defined using the BIM panel are not saved correctly, and do not run as expected

Explanation: Certain fields are not saved correctly when you save the BMC Batch Impact Manager jobs in CONTROL-M/Desktop.

The following symbols are not valid for any field on the BIM panel and may cause the problem:

- Single quotation mark (')
- Double quotation marks (")
- Equals (=)
- Less than (<)
- Greater than (>)
- Ampersand (&)
- Backslash (\)

User response: Do not use these characters when defining BMC Batch Impact Manager jobs.

When Opening a BMC Batch Impact Manager Job in CONTROL-M Desktop or in the CONTROL-M/EM GUI, an error message appears after selecting the BIM panel

Explanation: An error message appears after selecting the BIM panel. This may occur because CONTROL-M Desktop or the CONTROL-M/EM GUI was open during BMC Batch Impact Manager installation.

User response: Exit all open copies of the CONTROL-M/EM GUI. Re-import the BIM panel in CONTROL-M/Desktop using the **Import Application Form** option from the **Tools** menu. Re-open the BMC Batch Impact Manager job and choose the BIM panel.

Parameter and object reference

This appendix presents the following topics:

System parameters 207
BMC Batch Service Extension contents 208
Classes 208
Datasets 208
Jobs 209
BMC Atrium CMDB object reference 209
Overview 210
CONTROL-M objects created by BMC Batch Discovery 210

System parameters

The system parameters that are described in this section are added to CONTROL-M Configuration Manager during the installation of BMC Batch Discovery. Immediately after installation, BMC Batch Discovery is ready to run without further specification or modification of the system parameters.

The information below is provided for reference for changing the BMC Batch Discovery functionality. The BMC Batch Discovery system parameters are changed using CONTROL-M Configuration Manager. For instructions on modifying CONTROL-M/EM system parameters, see the *CONTROL-M Administrator Guide*.

Table 36 BMC Batch Discovery parameters

Parameter	Description
ARServer	Specifies the name of the Remedy Action Request server through which BMC Batch Discovery is connected to BMC Atrium CMDB. If the Remedy Action Request server is specified in the command line with the **-ars** parameter, the command line value will override the system parameter.
IncludeCtmMpmComputerCi	Provides the option to include the CONTROL-M / Server computers on which the batch service depends in BMC Atrium CMDB. Valid values: ■ **0** CONTROL-M / Server computers are not included. ■ **1** Relevant CONTROL-M / Server computers are included. Default: **0**

BMC Batch Service Extension contents

BMC Batch Service Extension creates classes, rules, datasets, and jobs in BMC Atrium CMDB as described in the following sections.

Classes

The BMC Batch Service Extension adds to BMC Atrium CMDB the following new class: BMC_BatchService

This class is derived from BMC.CORE:BusinessService and exists within the following new namespace: BMC.CTM

Datasets

The BMC Batch Service Extension to CMDB creates a local dataset for staging purposes in the designated BMC Atrium CMDB installation. The dataset has the following properties:

- Dataset Name: BMC Batch Import
- Dataset ID: BMC.IMPORT.CTM

Jobs

The BMC Batch Service Extension to CMDB creates the following jobs in the designated BMC Atrium CMDB installation:

- Batch Discovery Reconciliation Process
- Batch Discovery Purge IMPORT.CTM
- Batch Discovery Delete IMPORT.CTM

The Batch Discovery Reconciliation Process job is used to reconcile the instances of BMC.IMPORT.CTM to the BMC Asset dataset, where they are available to all users. If BMC Topology Discovery is installed, any matching CIs discovered are reconciled as well.

The Batch Discovery Purge IMPORT.CTM job is used to delete obsolete instances of the BMC.IMPORT.CTM dataset (an instance becomes obsolete when the MarkedAsDeleted flag is set to true).

NOTE

The Batch Discovery Purge IMPORT.CTM job cleans the BMC Batch Import Dataset and not the BMC Asset dataset.

The Batch Discovery Delete job deletes all CIs found in the BMC.IMPORT.CTM dataset.

NOTE

If the Delete job is run before the Purge and Reconcile jobs, obsolete instances will remain in the BMC Asset dataset until they are manually removed.

BMC Atrium CMDB object reference

This section details the BMC Atrium CMDB objects used and created by BMC Batch Discovery. It is intended for CONTROL-M and CMDB Administrators who wish to understand how Batch Service dependencies are represented in BMC Atrium CMDB.

Overview

BMC Batch Discovery gathers information from CONTROL-M about Batch Services and their job dependencies. It identifies all Batch Services in the CONTROL-M/EM database, and then follows the job dependencies for each of them, recording information about the hosts where the jobs run.

Only hosts that are active are discovered, while hosts that are either not active or not connected are ignored. This is also true about mainframe dependencies. If the mainframe's Configuration Agent is not connected at the time of the discovery process, the mainframe dependencies are not added to the in BMC Atrium CMDB.

The System Parameter section has additional information on system parameters that may affect the dependencies created by BMC Batch Discovery.

CONTROL-M objects created by BMC Batch Discovery

The following two tables summarizes the CMDB objects created by BMC Batch Discovery.

Table 37 CONTROL-M objects and their BMC Atrium CMDB representation (part 1 of 2)

CONTROL-M related object	BMC Atrium CMDB Class
Batch Service	BMC.CTM:BMC_BatchService All Batch Services with at least one dependency are represented.
Job host name (Distributed Systems)	BMC.CORE:BMC_ComputerSystem A computer system that, in the case of an outage, directly affects the job chain represented by a Batch Service.

Table 37 CONTROL-M objects and their BMC Atrium CMDB representation (part 2 of 2)

CONTROL-M related object	BMC Atrium CMDB Class
Node Group	BMC.CORE:BMC_Cluster Represents a CONTROL-M / Server Node Group.
Job (Mainframe)	■ BMC.CORE:BMC_Mainframe Represents a mainframe. Each job running on a mainframe is connected to a mainframe CI, except when SYSTEM_AFFINITY is specified. ■ BMC.MAINFRAME:BMC_MFVirtualSystem Represents an LPAR where a job might run. Requires a mainframe extension. If SYSTEM_AFFINITY has been set for the z / OS job, then a CI for the correspondent CONTROL-M Global or Local Monitor is created in addition to the LPAR correspondent to the SYSTEM_AFFINITY. ■ BMC.MAINFRAME:BMC_Sysplex A Sysplex CI represents the Sysplex where CONTROL-M for z / OS is installed. Requires a mainframe extension.

Table 38 Dependency objects and their BMC Atrium CMDB representation

Dependency related object	BMC Atrium CMDB Class
Batch service - > to a dependency	BMC.CORE:BMC_Dependency
Node Group - > Computer System	BMC.CORE:BMC_Member OfCollection

Glossary

A

A GlossTerm
Definition of the term.

B

batch service
A set of batch jobs that are critical to the client's business.

BMC Batch Impact Manager
BMC Software product that provides scheduling information about critical batch business processes.

BMC Batch Discovery
BMC Software product that identifies batch services and their dependencies in the IT environment, and inserts the information into the BMC Atrium CMDB.

BMC Remedy Action Request System
BMC Software product that provides a platform for automating and managing service management business processes.

BMC Remedy Change Management Application
BMC Software product that provides a system that identifies the impact and risk that proposed IT changes have on business objectives.

BMC Topology Discovery
BMC Software product that identifies IT components and the relationships between them.

C

CDM
Common Data Model Schema for the BMC Atrium CMDB

CI
Configuration item

CMDB
The Configuration Management Database is a repository that lists all the components of an IT environment and details how the components are configured and interrelated.

D

discovery
The process of identifying physical and logical components located on a given network.

E

extension
A logical set of classes and attributes, usually in its own namespace, that is not part of the Common Data Model (CDM).

F

federated data
Data linked from a CI in the BMC Atrium CMDB, but stored externally federated data might represent more attributes of the CI or related information, such as change requests on the CI.

K

key attributes
Attributes that CMDB reconciliation rules use to identify identical CIs. Examples of key attributes are “host” and “domain” names for Windows and UNIX systems and “Name” for mainframe systems.

L

logical component
A component that performs a particular function but does not represent a physical device. For example, databases and software applications are logical components.

logical topology
The virtual connections between nodes on a network that represent the flow of data without regard to the actual physical connections. In a logical topology, an application might be shown as directly connected to its database, while in reality data transferred between them must travel across a network through several physical devices.

LPAR
Logical Partition - virtual computer environment. A mainframe computer can have a number of LPARs.

P

physical component
A component that is an actual device in an IT system, such as a computer or a printer.

physical topology
The physical arrangement of devices on a communication network. Physical topology represents the actual route traveled by data as it is transmitted over cables from one device to the next.

R

related data
Data linked to or from the BMC Atrium CMDB Extended Data.

S

service
A set of jobs that are critical to the client's business.

system parameter
Parameters that influence the behavior of a wide range of CONTROL-M/Enterprise Manager components and features. For example, the BIMHostName system parameter specifies the computer on which the BMC Batch Impact Manager server is located. CONTROL-M/EM accesses this system parameter to determine the BMC Batch Impact Manager host.

T

TokenID
A key attribute that CMDB reconciliation rules use before other key attributes.

topology
The physical or logical layout of a communication network.

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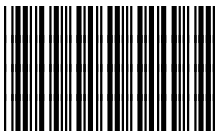

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